

ISSN 0147-9725



MARYLAND BIRDLIFE

Avian studies in the Mid-Atlantic region



Bulletin of the Maryland Ornithological Society, Inc.

**FALL 2020
VOLUME 69
NUMBER 2**

MARYLAND ORNITHOLOGICAL SOCIETY, INC.

4915 Greenspring Avenue, Baltimore, MD 21209
301-588-4250 <http://www.mdbirds.org>

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Cover: Black-chinned Hummingbird, *Archilochus alexandri*. Immature male. First Maryland record, Compton, St Mary's County, Maryland. Photographed by George M. Jett©, 25 January 2020.

EDITOR'S NOTE

Species List Order

The species list order used in this issue is based on:

Chesser, R.T., S.M. Billerman, K.J. Burns, C. Cicero, J.L. Dunn, A.W. Kratter, I.J. Lovette, N.A. Mason, P.C. Rasmussen, J.V. Remsen, Jr., D.F. Stotz, and K. Winker. 2020. Check-list of North American Birds (online). American Ornithological Society. Available at: <http://checklist.aou.org/taxa>

Call for Potential Authors

I encourage you to publish your ornithological observations in *Maryland Birdlife*. As the late Joseph C. Mitchell, founder and longtime coeditor of the Virginia Natural History Society's journal *Banisteria*, often said, **"If it ain't published, it didn't happen!"** (*Banisteria* 52:52–73; 2019). Put your findings in print for the world to see. If you are apprehensive or a first-time writer, I am available to help you in the process. Please e-mail your first drafts to me. Thank you for your consideration.

Eugene J. Scarpulla
Editor
birdlife@mdbirds.org

Maryland's First Black-chinned Hummingbird, *Archilochus alexandri*

J. Tyler Bell and Jane F. Kostenko

23035 Forest Way, California, Maryland 20619-6006

[JTB] jtylerbell@yahoo.com; [JFK] janekostenko@hotmail.com

On 18 January 2020 at 12:28 p.m., J. Tyler Bell (JTB) received an email from Barbara Whipkey, franchise store owner of Wild Birds Unlimited in Lexington Park, St. Mary's County, Maryland, with information about a hummingbird just reported by a homeowner in Compton, St. Mary's County. The homeowners had not taken down their glass hummingbird feeder and happened to look out the window while doing dishes at the kitchen sink, only to see a hummingbird buzzing around the feeder! Once the bird left, the homeowners brought in the feeder, cleaned it, and put out fresh nectar (super-sweetened, per Whipkey's suggestion). A few minutes later, JTB received a video. In the video, the hummingbird did not have any rusty color, thereby eliminating the most likely winter hummingbird, Rufous Hummingbird, *Selasphorus rufus*. JTB and Jane F. Kostenko (JFK) contacted the homeowners who readily shared directions to their house. (The homeowners had already sent some images to The Cornell Lab of Ornithology, but the images were inconclusive.)

JTB and JFK arrived at the homeowners' house by 3:30 p.m. Unfortunately, by that time, it had begun to rain and the sun was approaching the horizon. They were able to get photos from inside the warm, dry house but the photos were far from definitive. Initial feedback from Bruce G. Peterjohn, recently retired Chief of the Bird Banding Laboratory at the Patuxent Wildlife Research Center in Laurel, Maryland, and Sheri L. Williamson, author of *A Field Guide to Hummingbirds of North America* (2001), leaned toward Ruby-throated Hummingbird, *Archilochus colubris*.

Peterjohn arranged with the homeowners for a banding attempt on 24 January 2020. One of the homeowners and Whipkey were present with Peterjohn. When the hummingbird flew into Peterjohn's trap, he immediately thought it was not a good fit for Ruby-throated. Once the bird was in his hand, he turned it over and "Voilà!", a single purple gorget feather. The bird was Maryland's first Black-chinned Hummingbird, *Archilochus alexandri*, a second-year male (Figures 1 and 2). Black-chinned Hummingbird is the western counterpart of the eastern Ruby-throated Hummingbird (Williamson 2001). Long overdue in Maryland, this species had previously been recorded in several adjacent states and the District of Columbia (Table 1). Peterjohn discussed the ramifications of a "state first" with the homeowners, then called JTB and JFK. Subsequently, JTB and



Figure 1. Black-chinned Hummingbird, *Archilochus alexandri*. Second-year male. First Maryland record, Compton, St. Mary's County, Maryland. Photographed by Lynne Parks, 2 February 2020.

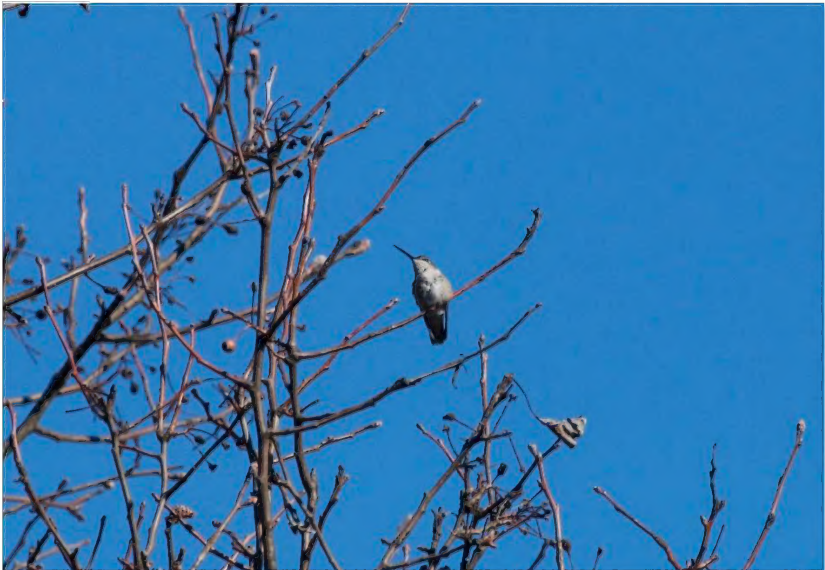


Figure 2. Black-chinned Hummingbird. Flip's favorite perch was a Callery (aka Bradford) pear, *Pyrus calleryana* Decne. (Rosaceae), near the feeders. Photographed by Jane Kostenko, 8 February 2020.

JFK started negotiating with the homeowners for possibly allowing people to see “Flip,” a name the homeowners gave the bird based on the identification after Peterjohn “flipped” the bird over.

On 26 January 2020, JFK and JTB brought two small groups of four and five people in one-hour time slots to the backyard where birders could stand and watch the feeder. After the birders left, all having had excellent views of the hummingbird, JFK and JTB talked with the homeowners about how to open up viewing to more people. The layout of the yard and road to the house and the neighbors’ residences were not conducive for allowing people to just go the house unsupervised. It was agreed that JFK and/or JTB would escort groups of eight people at a time in one-hour time blocks from 8:00 a.m. until 11:00 a.m. (when the hummingbird became less reliable at the feeder). The homeowners alerted their neighbors about the times when strange activity would be going on in their yard and when as many as three cars at a time would be in their driveway. The homeowners also spoke with the management at a nearby bar, which would become the meeting area for birders who would then carpool to the house.

Initially, JTB and JFK sent out targeted emails to Maryland birders, informing them of the bird and open viewing slots. Within a few days, though, positive responses to these invitations had dwindled and the decision was made for information to be shared on the “MD-SMAS (Southern Maryland Audubon Society)” Yahoo Group, the “Maryland & DC Birding” Google Group and the “MD Notable Bird Sightings & Discussion Group” on Facebook. Birders were scheduled on a first-come, first-served basis until slots filled up. Flip entertained birders from across Maryland, some coming from as far west as Oakland in Garrett County, and as far east as Ocean City in Worcester County. There were a few people from Virginia and the District of Columbia, as well. Approximately 130 birders observed the Black-chinned during the period while visitation was arranged on various days each week through 15 February 2020.

Then, on 22 February 2020, one of the homeowners saw Flip first thing in the morning for a few forays to the feeder then not again for the rest of the day or any subsequent day. Peterjohn said that the male Black-chinned Hummingbird that was being seen throughout the winter in Williamsburg, Virginia, had departed in early February, a pattern apparently typical of the species within their winter range. Younger birds usually leave later, as did Flip. The temperatures Flip encountered prior to his departure were significantly colder than those on the morning he left, so mortality was not likely.

On 3 June 2020, Phillip C. Davis, Secretary of the Maryland/District of Columbia Records Committee, notified JTB and JFK that this sighting (Control Number 2020-001) of a second-year male Black-chinned Hummingbird became the first accepted record of the species in Maryland (MD/DCRC 2020b).

NORMAL DISTRIBUTION and EXTRALIMITAL REPORTS

The normal distribution of Black-chinned Hummingbirds is from southern British Columbia throughout the western United States and south to northern and central Mexico (Baltosser and Russell 2000). Historically, most populations winter in Mexico, although some wintering birds casually occur in south Texas (Baltosser and Russell 2000). Williamson (2001) states that the number of birds wintering along the Gulf Coast to Georgia and Florida appeared to be increasing. Dunn and Alderfer (2017) mention that a few Black-chinneds winter in the Southeast and that individuals also have a casual occurrence in the late fall in the Midwest and from the Mid-Atlantic to Atlantic Canada.

There are extralimital reports of Black-chinned Hummingbirds from the following states and provinces along the Atlantic Coast: Florida, Georgia, South Carolina, North Carolina, Virginia, Maryland (this record), New Jersey, Connecticut, Massachusetts, Nova Scotia, and New Brunswick (eBird 2020).

Table 1. Accepted records in jurisdictions surrounding Maryland.

Jurisdiction	Record Number	Date	County	Location	Source
Delaware	(none)				DBRC 2018
District of Columbia	2003-141	17 NOV–12 DEC 2003	--	National Mall, Smithsonian Institution, Mary Ripley Gardens	MD/DCRC 2020a
Pennsylvania	489-01-2012	10 NOV 2012	Bucks	Morrisville	PORC 2020
	489-01-2013	1–25 NOV 2013	Franklin	Greencastle	PORC 2020
	489-01-2016	11 NOV 2016	Lycoming	Montoursville	PORC 2020
Virginia	--	6 JAN–5 MAY 2002	--	Virginia Beach	VARCOM 2020
	--	28 NOV–19 DEC 2004	Northampton	Cape Charles	VARCOM 2020
	--	9–30 DEC 2006	Northampton	Cape Charles	VARCOM 2020
	--	1st week NOV 2007 –15 JAN 2008	Bedford	Forest	VARCOM 2020
	--	8–11 NOV 2010	Pulaski	Claytor Lake	VARCOM 2020
	--	6 NOV 2019	Northampton	Kiptopeke State Park	VARCOM 2020
	--	10 NOV 2019 (a second bird)	Northampton	Kiptopeke State Park	VARCOM 2020
	--	15 NOV 2019	--	Virginia Beach	VARCOM 2020
	--	17 FEB 2020	York	--	VARCOM 2020
West Virginia	2007-1	11 OCT 2006 –30 JAN 2007	Jefferson	near Shepherdstown	WVBRC 2020

ACCEPTED RECORDS IN SURROUNDING STATES

Accepted records of Black-chinned Hummingbirds have occurred in all jurisdictions surrounding Maryland except for Delaware (Table 1; DBRC 2018). Virginia has the most records with nine (VARCOM 2020), followed by Pennsylvania with three (PORC 2020). The District of Columbia and West Virginia each have one (MD/DCRC 2019, WVBRC 2020).

ACKNOWLEDGMENTS

We would like to thank the homeowners (who wish to remain anonymous) for graciously allowing so many birders to admire this great bird; they went to great lengths to keep this tiny jewel alive and healthy with fresh, unfrozen nectar. Heartly thanks to Barbara Whipkey for initially passing the news along to us and for being a dependable community resource. Gratitude and high praise are due to Bruce G. Peterjohn, who performs an invaluable (and free!) service through his hummingbird banding efforts; his work is professional, caring, and informative to the homeowners and Maryland birders alike. Thanks to Sheri L. Williamson for looking at sub-par pictures and taking a stab at an identification. Sincere thanks to Eugene J. Scarpulla (Editor, *Maryland Birdlife*) for researching and compiling the records data and tables, as well as the literature cited; his work added a dimension to this article that shows how truly overdue this species' appearance in Maryland was. Special thanks to Matthew Ichniowski for spelling us for a Saturday of escorting birders while we had the nerve to go to Ireland. Three anonymous reviewers took time out of their busy schedules to make suggestions to improve this article. Lynne Parks generously allowed us to use one of her pictures of Flip. And final thanks go to everyone who followed the rigorous but necessary rules, for those who contented themselves with less-than-ideal views when they had to rotate out for the next shift, and for the kind comments and notes of appreciation that we forwarded to the homeowners.

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White-throated Sparrow (*Zonotrichia albicollis*) with Dilute Pastel PlumageJill Morrow¹ and Lance Morrow^{1,2}¹*Shenandoah Valley Raptor Study Area, Timberville, Virginia 22853*²*Corresponding author: saltlick2003@gmail.com*

ABSTRACT: An extremely pale passerine was collected in northern Virginia and identified as a White-throated Sparrow (*Zonotrichia albicollis*) based on its yellow lores and wing edges. Herein we describe the first White-throated Sparrow with dilute plumage due to a genetic condition, termed “pastel”, in which both types of melanin pigments in the feathers are reduced.

KEY WORDS: aberrant, dilute, pale, pastel, plumage, White-throated Sparrow, *Zonotrichia albicollis*.

INTRODUCTION

The White-throated Sparrow (*Zonotrichia albicollis*) is a common passerine that breeds in boreal coniferous and mixed woodlands primarily east of the Rocky Mountains. Its winter range includes much of the contiguous United States from New England as far south as Texas and Florida (Falls and Kopachena 2020). White-throated Sparrows are genetically polymorphic at chromosome 2 which determines white versus tan crown stripes and behavioral traits (Michopoulos et al. 2007). Regardless of the morph, in all plumages except the prebasic, yellow lores and pale-yellow wing edges are unambiguous field marks of the White-throated Sparrow (Falls and Kopachena 2020). Yellow pigmentation is due to carotenoids (Bostwick 2016).

Aberrant plumages in wild birds are not uncommon; several distinct aberrations have been described (Sage 1962, van Grouw 2013). Few accounts of aberrantly plumaged White-throated Sparrows are published but there are reports of leucistic and partial albinos (Ross 1963, Evans 1995). Others describe a White-throated Sparrow with a white head and neck, identified by yellow lores and its association with flocks of normal White-throated Sparrows (Brooks et al. 1998). Several individual White-throated Sparrows with orange, rather than yellow, lores have been reported (Bilsborough 1987). However, we found no published accounts of White-throated Sparrows with dilute plumage.

Depending on the era of collection, this dilute plumage may have been termed albino, partial albino, incomplete albino, leucistic, ghost, schizochroistic, or dilute. Initially, any unusually pale or white birds including those with aberrantly white feathers were termed “albino” (McGregor 1900). Later, other terms “imperfect albino” and “partial albino” came into use (Mueller and Hutt 1941). A leucistic Barn Swallow (*Hirundo rustica*) described as “cream-colored” with dark eyes, is like the sparrow described herein (Fingerhood 2016). Recently, van Grouw (2013) defined dilute plumage as a quantitative reduction of one or both melanins: eumelanin, the pigment responsible for black, dark browns, and dark gray; and phaeomelanin, the pigment associated with buff and reddish-brown feather coloration. Dilute plumage can be further divided into three phenotypes: “isabel” in which only eumelanin is reduced, “silver” in which only phaeomelanin is reduced, and “pastel” in which both melanins are reduced (van Grouw 2013). The aberrant White-throated Sparrow documented herein fits the definition of dilute pastel, as it has decreased eumelanin and phaeomelanin while retaining the characteristic non-melanic yellow pigmentation of the lores and wing edges.

RESULTS

On 25 December 1982, a White-throated Sparrow was collected in Prince William County, 12.9 km (8.0 mi) south of Manassas, Virginia. This aberrant White-throated Sparrow study skin, formerly of the Walter Balmer Collection, is currently housed in the Division of Birds, National Museum of Natural History, Smithsonian Institution, Washington, District of Columbia: USNM 653246. A normal plumaged male specimen (USNM 627853 collected 19 April 2009 on the University of Maryland Baltimore County campus, Maryland) was photographed next to the dilute specimen for comparison (Figures 1–2).

Description of the aberrant sparrow: overall pale off-white plumage both ventrally and dorsally with faint gray-brown cheeks, faint lateral crown stripes, and yellow present on the lores and leading edge of wing. Yellow lores appear to be reduced in size and intensity compared to normal. Beak is flesh colored with a dark tip, however, most of upper mandible is missing due to collection by shotgun. Eyes were a normal dark color when the specimen was collected. Legs are pale brown-orange. Downy feathers are a medium gray color. The age of the sparrow was not determined but the dilute specimen was determined to be male by dissection.

This aberrantly plumaged bird is identified as a White-throated Sparrow based on the yellow lores and yellow leading edges of wings, characteristics not shared by other North American sparrows. Species identification is further reinforced by the following: this individual was collected within the species winter range, it

has the appropriate body size and bill shape, and it was associated with normal plumaged White-throated Sparrows at the time of collection.



Figure 1. Dorsal aspect of normal (top) and dilute (bottom) White-throated Sparrows (*Zonotrichia albicollis*). The normal plumaged male sparrow has distinct black and white crown stripes, reddish-brown on back and scapulars, with brown rump and rectrices. On the dilute specimen, all black, reddish-brown, and brown pigments and the feather patterns are severely reduced.



Figure 2. Lateral aspect of normal (top) and dilute (bottom) White-throated Sparrows. Characteristic yellow lores are present on both sparrows. The dilute sparrow has pale yellow on the leading edge of wing which is also present on the normal plumaged sparrow but obscured by feathers.

DISCUSSION

The most common heritable causes of plumage aberrations in House Sparrow (*Passer domesticus*) museum specimens, listed in order of occurrence, are: brown (strong qualitative reduction of eumelanin), dilute (paler than normal), ino (strong qualitative reduction of both melanins), albinism, leucism, and melanism (van Grouw 2012). In categorizing the aberrant White-throated Sparrow, we immediately ruled out albinism and leucism because the aberrant feathers are not pure white. This aberrant male sparrow is probably not a brown or an ino mutant because these are recessive sex-linked mutations so only female mutants are likely to be found in the wild (van Grouw 2013).

Another type of mutation, melanism, was considered as an explanation for this aberrant White-throated Sparrow. Melanistic plumage aberrations do not always appear darker than normal and can manifest as pale birds due to altered distribution and deposition of melanin granules. Melanistic birds can be divided into three groups (van Grouw 2013): 1) dark feather patterns are more marked and the rest of the plumage may be darker than normal; 2) the entire plumage is aberrantly dark brown or black; and 3) overall plumage is not darker than normal but feather patterns are changed. We documented a category 3 melanistic female Cooper's Hawk (*Accipiter cooperii*) whose genetic condition, "heritable pallid dysmelanism", was inherited by half of her progeny (Morrow et al. 2015). The aberrant Coopers Hawk's overall appearance was paler than normal and eumelanin feather patterns were absent or abbreviated as dark spots. Even though the dilute White-throated Sparrow described herein is pale, it is probably not a category 3 melanistic bird because it expresses substantially decreased levels of both eumelanin and phaeomelanin and has no abbreviated patterns in its feathers.

In 1994, we observed and attempted to capture for photographic documentation, a dilute pastel Red-tailed Hawk (*Buteo jamaicensis*) in Culpeper County, Virginia. The hawk had a dark eye, indicative of an adult, very pale plumage, and faint feather patterns. It has been documented that dilute pastel birds in the wild have variable amounts of melanin expression, ranging from slightly faded to nearly white birds (van Grouw 2012). The White-throated Sparrow documented herein fits the definition of an extremely dilute pastel mutant. Since dilute plumage can be caused by many genetic mutations (van Grouw 2012), this individual cannot be further categorized without genotyping. The exact cause of aberrant plumage would likely be revealed by genetic testing, as discussed in our paper describing a dilute American Kestrel (*Falco sparverius*) (Morrow and Morrow 2014).

ACKNOWLEDGMENTS

The authors thank Christina A. Gebhard of the Smithsonian Institution's Division of Birds for locating and photographing the dilute pastel study skin

next to a normal sparrow. We also gratefully acknowledge the assistance of Hein van Grouw, J. Bruce Falls, Patti Reum, Edmund Henderson, Walter H. Sakai, Walter Balmer, and two anonymous reviewers.

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Sunbathing by a Blue-gray Gnatcatcher (*Polioptila caerulea*), Northern Cardinal (*Cardinalis cardinalis*), Carolina Wren (*Thryothorus ludovicianus*), and Great Crested Flycatcher (*Myiarchus crinitus*) in Bowie, Prince George's County, Maryland

Marcia R. Watson and Eugene J. Scarpulla

14207 Lakerun Court, Bowie, Maryland 20720-4861

(MRW) marshwren50@comcast.net; (EJS) ejscarp@comcast.net

ABSTRACT: During the summers of 2018 and 2019, several episodes of avian sunbathing were observed involving four species: Blue-gray Gnatcatcher (*Polioptila caerulea*), Northern Cardinal (*Cardinalis cardinalis*), Carolina Wren (*Thryothorus ludovicianus*), and Great Crested Flycatcher (*Myiarchus crinitus*) on a wooden deck and railing in Bowie, Prince George's County, Maryland.

Sunbathing is considered a self-maintenance type of behavior. Sunbathing by Maryland birds has been reported in the literature twice in recent years. Johnson (2017) observed Great Crested Flycatchers (*Myiarchus crinitus*) sunbathing on numerous occasions on the vinyl cover of an outdoor spa between July 2009 and August 2016 in Annapolis, Anne Arundel County. Watson (2017) reported sunbathing by an Eastern Wood-Pewee (*Contopus virens*) on a wooden deck on 30 July 2017 in Bowie, Prince George's County.

Herein we report several observations of avian sunbathing on the same wooden deck at our home in Bowie, Prince George's County, Maryland, during the summers of 2018 and 2019. The observations involved Blue-gray Gnatcatcher (*Polioptila caerulea*), Northern Cardinal (*Cardinalis cardinalis*), Carolina Wren (*Thryothorus ludovicianus*), and Great Crested Flycatcher. In addition to reporting our observations, we surveyed the literature using "The Birds of North America" (Rodewald 2015), Google Scholar, and Google, and have included sunbathing information for related species found in North America and Middle America (Chesser et al 2019). Per Chesser et al. (2019), North America and Middle America "...includes North and Central America from the North Pole to the boundary of Panama and Colombia, including the adjacent islands... Greenland; the Hawaiian Islands; Clipperton Island; Bermuda; the West Indies, including the Bahama Islands, the Greater Antilles, Leeward and Windward Islands in the Lesser Antilles (ending with Grenada); and Swan, Providencia, and San Andrés Islands in the Gulf of Mexico." It is possible that information on Middle American species could be published in small, limited

distribution, and/or other language journals that might not be easily accessible online.

Our home is adjacent to woodlands bordering the stream valley of Collington Branch, a tributary of the Patuxent River. In the afternoon, the southeast facing back deck is in full sun. Ambient air temperatures were recorded from the stationary thermometer situated in the shade under the deck. The surface temperatures of the dark brown-stained wooden deck and its wooden railings would have been significantly higher than the recorded air temperatures. All observations were opportunistic (i.e., we were not waiting by the window at specific observation times). All times are in 2400-hour Eastern Daylight Time.

BLUE-GRAY GNATCATCHER

2019 Bowie Observations

On 15 June 2019, starting at approximately 1400 hours, we observed a male Blue-gray Gnatcatcher sunbathing on the wooden railing of the back deck. The ambient air temperature was 27 °C (80 °F). The Blue-gray Gnatcatcher lay prostrate on the wooden railing with its breast and belly pressed against the wooden surface. Its wings were splayed and pressed against the wooden surface. Its tail was splayed and either pressed against the wooden surface or raised slightly above the surface. The tail appeared to pump up-and-down in synchrony with the bird's panting. The bill was open during the sunbathing events and the bird glanced from side-to-side. The back feathers were fluffed upwards (Figures 1–4).

We observed, and MRW photographed, the bird through the kitchen's screened windows, obtaining 105 images. The bird was usually about 2 m (7 ft) from us, but changed location from time to time. All of the photographs were taken from the same general vantage point, with only slight shifts in order to shoot around the window panes. When first observed, the gnatcatcher was facing roughly east, with the sun high in the southwest sky; hence the rump was toward the sun. However, in subsequent sunbathing events that day, the bird was observed in every possible orientation toward the sun. In all, we observed 18 sunbathing events (Table 1), and obtained at least a few photographs of each event. After each event, the bird flew into the woodland. At 1510 hours, after not seeing the bird return for approximately 7 minutes, we ceased observations.

All of the photographs showed an adult male Blue-gray Gnatcatcher, as determined by the black supraorbital line. Only one male was observed sunbathing at a time. However, at least one other Blue-gray Gnatcatcher of unknown sex was present in the vicinity, and at one point we observed the sunbathing bird fly into an adjacent horticultural magnolia (*Magnolia* L. sp. [Magnoliaceae]) and briefly chase the other gnatcatcher. Both birds then exited



Figure 1. Blue-gray Gnatcatcher (*Poliioptila caerulea*). Left view of a male sunbathing on the wooden railing, Bowie, Prince George's County, Maryland, 15 June 2019.



Figure 2. Blue-gray Gnatcatcher. Right view of a male sunbathing on the wooden railing, Bowie, Prince George's County, Maryland, 15 June 2019.



Figure 3. Blue-gray Gnatcatcher. Front view of a male sunbathing on the wooden railing, Bowie, Prince George's County, Maryland, 15 June 2019.



Figure 4. Blue-gray Gnatcatcher. Rear view of a male sunbathing on the wooden railing, Bowie, Prince George's County, Maryland, 15 June 2019.

the deck area and entered the nearby woodlot. The sex of the second bird was unknown. Because only one gnatcatcher was seen on the sundeck at a time, we do not know if our observations were of the same bird or if different individuals visited sequentially.

On 21 June 2019, we made two additional observations of a single sunbathing gnatcatcher on the sunny deck railing (Table 1). The weather was mostly sunny and breezy, with an ambient air temperature of 25 °C (77 °F). Unfortunately, the sunlight was at an angle such that photography was challenging because of sun glare on the window screens. Only one photograph was obtained on this date and the bird was largely obscured by the window screen in the foreground.

Table 1: Blue-gray Gnatcatcher (*Poliioptila caerulea*) sunbathing episodes, Bowie, Maryland, summer 2019. Start times were read from a digital clock that only displayed minutes. Approximate durations were estimated with a kitchen timer, except those noted with an “*” that were obtained using a watch with a second hand.

Date	Start Time (2400 hours)	Approximate Duration (seconds)
15 June 2019	1400	60
15 June 2019	1403	60
15 June 2019	1405	60
15 June 2019	1407	60
15 June 2019	1409	30
15 June 2019	1414	60
15 June 2019	1416	60
15 June 2019	1418	10
15 June 2019	1429	60
15 June 2019	1431	60
15 June 2019	1445	30*
15 June 2019	1447	103*
15 June 2019	1450	25*
15 June 2019	1452	80*
15 June 2019	1454	53*
15 June 2019	1456	50*
15 June 2019	1501	50*
15 June 2019	1503	15*
21 June 2019	1316	30
21 June 2019	1319	17*

As an added note, MRW also made a brief observation of a Blue-gray Gnatcatcher sunbathing at Patuxent River Park – Clyde Watson Boating Area, Prince George’s County, on 26 June 2019 at approximately 1245 hours. On this occasion, MRW was observing a Ruby-throated Hummingbird, *Archilochus colubris*, feeding at blooming Trumpet Creeper, *Campsis radicans* (L.) Seem. ex Bureau (Bignoniaceae), when her attention was drawn to movement on a large flat log beneath the vine. The movement was the tail-pumping activity of a Blue-Gray Gnatcatcher sunning itself. The bird flew off before a photograph could be obtained. This brief observation documented use of a natural substrate (the log) for sunbathing.

Summary of Sunbathing in North American and Middle American Gnatcatchers

The American Ornithological Society (Chesser et al. 2019) lists nine species of *Poliophtila* in North and Middle America. Four species, Black-capped Gnatcatcher (*P. nigriceps*; primarily Middle American but also occurs rarely in extreme southeastern Arizona [Dunn and Alderfer 2017]), Black-tailed Gnatcatcher (*P. melanura*), Blue-gray Gnatcatcher, and California Gnatcatcher (*P. californica*), are found in North America whereas an additional five species, Cuban Gnatcatcher (*P. lembeyei*), Slate-throated Gnatcatcher (*P. schistaceigula*), Tropical Gnatcatcher (*P. plumbea*), White-lored Gnatcatcher (*P. albiloris*), and Yucatan Gnatcatcher (*P. albiventris*), are only found in Middle America. Little is documented about sunbathing in these nine species.

Blue-gray Gnatcatcher

Ellison (1991) was the first to document sunbathing by a Blue-gray Gnatcatcher. He reported two episodes of a female gnatcatcher sunbathing in Vermont on 6 July 1988 with its head cocked toward the sun, wings relaxed, and breast and belly feathers fluffed out. The first episode lasted more than 20 seconds; the second about 15 seconds, with an approximate 4-minute break in between. The Vermont episodes occurred in late morning during preening bouts on a hot, humid day. This suggested that the sunbathing had little, or no, thermoregulatory function (Kershner and Ellison 2012). Zickefoose (2018) reported Blue-gray Gnatcatchers sunbathing “sprawled out, wings open, tiny black and white tails spread wide” from late June through August on mounded grass clippings being used as garden mulch. Our observation appears to be the third to document this behavior by a Blue-gray Gnatcatcher.

California Gnatcatcher

In David R. Bontrager’s field notes on California Gnatcatchers, he reports, “Occasionally seen sitting motionless with closed eyes for up to 5 min. Pair sunbathed, preened, and scratched for 19 min while perched 8 cm [3 in] apart in shrub; alternated between orienting breast or back into sun.” (Atwood and Bontrager 2001).

An online literature search for the two other North American species—Black-capped Gnatcatcher (Rodewald 2015) and Black-tailed Gnatcatcher (Farquhar and Ritchie 2002)—and for the five Middle American *Polioptila* species yielded no reports of sunbathing, with the exception being Tropical Gnatcatcher.

Tropical Gnatcatcher

van Nierkerk (2018) recorded a video of a pair of Tropical Gnatcatchers that were sunbathing in what appeared to be a nest at Tinamou Cottage, Boquete, Panama.

NORTHERN CARDINAL

2018 and 2019 Bowie Observations

On 26 June 2018, we observed a female Northern Cardinal sunbathing on the wooden railing (Figure 5, Table 2). Unfortunately, window screening interfered with photography on that occasion.

On 15 June 2019, in addition to the Blue-gray Gnatcatcher at approximately 1815 hours, MRW briefly observed a female Northern Cardinal in sunbathing posture on the floor of the wooden deck. The cardinal was prostrate on the deck with wings and tail splayed out, and mouth agape, with the head facing roughly east. Although the deck was previously in the sun, it was in shadow at the time, and thus would have lost some residual heat. The bird flew off as soon as MRW noticed it and did not return.

On 15 July 2019, at approximately 1504 hours, we observed a male Northern Cardinal sunbathing on the floor of the wooden deck. The weather was sunny with an ambient air temperature of 31 °C (88 °F). No photographs were obtained.

Table 2: Northern Cardinal (*Cardinalis cardinalis*) sunbathing episodes, Bowie, Maryland, summer 2018 and 2019. Start times were read from a digital clock that only displayed minutes. Approximate durations were estimated with a kitchen timer, with an exception being the summer 2018 observation when the readings were obtained from the time stamp on the photographs.

Date	Start Time (2400 hours)	Approximate Duration (seconds)
26 June 2018	1412	>120
15 June 2019	1815	(unknown)
15 July 2019	1504	20



Figure 5. Northern Cardinal (*Cardinalis cardinalis*). Left view of a female sunbathing on the wooden railing, Bowie, Prince George's County, Maryland, 26 June 2018.



Figure 6. Carolina Wren (*Thryothorus ludovicianus*). Front view of the wren sunbathing on the wooden deck, Bowie, Prince George's County, Maryland, 10 July 2019.

**Summary of Sunbathing in North American and Middle American
Cardinalis Cardinals**

The American Ornithological Society (Chesser et al. 2019) lists two species of *Cardinalis* cardinals in North and Middle America: Northern Cardinal and Pyrrhuloxia (*C. sinuatus*). Both species occur in both North and Middle America (Dunn and Alderfer 2017).

Northern Cardinal

Linville reported that Northern Cardinals frequently sunbathe in the early mornings of cooler months when they “perch on exposed limbs with feathers fluffed” (Halkin and Linville 1999). These instances would be thermoregulatory in nature rather than for the control of ectoparasites. Potter and Hauser (1974) observed several sunbathing events by Northern Cardinals from April through August. At least during the warmer months, this would most likely be for the control of ectoparasites.

Pyrrhuloxia

Searches in the Birds of North America (Tweit and Thompson 1999) and on the Internet found no sunbathing information for Pyrrhuloxia.

CAROLINA WREN

2019 Bowie Observations

On 10 July 2019, at approximately 1303 hours, we observed a Carolina Wren sunbathing on the wooden railing and the deck (Figure 6, Table 3). The weather was sunny with an ambient air temperature of 28 °C (82 °F). Just after the Carolina Wren positioned itself for sunbathing, a Great Crested Flycatcher arrived at the deck, also to sunbathe (see next section). The Great Crested Flycatcher chased the wren, which flew away but returned repeatedly over the next few minutes and engaged in short bouts of sunbathing. In each instance, the flycatcher, which was still present, chased the wren.

On 16 July 2019, at approximately 1238 hours, MRW observed a Carolina Wren sunbathing. No photographs were obtained on this date.

Table 3: Carolina Wren (*Thryothorus ludovicianus*) sunbathing episodes, Bowie, Maryland, summer 2019. Start times were read from a digital clock that only displayed minutes. Approximate durations were estimated with a kitchen timer.

Date	Start Time (2400 hours)	Approximate Duration (seconds)
10 July 2019	1303	60
10 July 2019	1310	30
10 July 2019	1311	15
16 July 2019	1238	<60

Summary of Sunbathing in North American and Middle American *Thryothorus* Wrens

The American Ornithological Society (Chesser et al. 2019) lists one species of *Thryothorus* wren in North and Middle America—Carolina Wren. It can potentially be found in both North and Middle America.

Carolina Wren

Thomas M. Haggerty reported that both adults and fledglings sunbathe utilizing downed trees and upturned roots and that sunbathing and preening are frequently combined (Haggerty and Morton 2014). Haggerty and Morton (2014) report the following from Oberholser (1974): “Head, back, and rump feathers erected, wings and tail partially spread, and head tilted sideways toward sun. Eyes partially closed. Legs flexed and hidden by belly feathers. Remain motionless sometimes up to several minutes”. Hauser (1957) reported Carolina Wrens “voluntarily” sunbathing (i.e., the birds intentionally seeking sunlit areas). Photos of sunbathing Carolina Wrens can be found on the Internet (e.g., Audrey 2008, Green 2014).

GREAT CRESTED FLYCATCHER

2019 Bowie Observations

On 10 July 2019, starting at approximately 1304 hours, we observed a Great Crested Flycatcher sunbathing on the wooden deck and the railing (Figures 7–9, Table 4). The weather was sunny with an ambient air temperature of 28 °C (82 °F). As described above, a Carolina Wren was also attempting to sunbathe during the same time period, and was repeatedly chased by the Great Crested Flycatcher, which sunbathed in three short bouts over the next eight minutes.

On 15 July 2019, starting at approximately 1459 hours, we observed a Great Crested Flycatcher sunbathing on the wooden deck (Figure 10). The weather was sunny with an ambient air temperature of 31 °C (88 °F). From 1459 to 1501 hours, the flycatcher appeared to be in a semi-sleeping, trancelike state, eyes closed, and the head often drooping. At 1501 hours, it awoke and immediately flew off. At 1525 hours, a flycatcher flew off the wooden deck to a nearby tree and began picking at its wing feathers, presumably removing ectoparasites.

Summary of Sunbathing in North American and Middle American *Myiarchus* Flycatchers

The American Ornithological Society (Chesser et al. 2019) lists 14 species of *Myiarchus* flycatchers in North and Middle America. Six species can potentially be found in both North and Middle America: Ash-throated Flycatcher (*M. cinerascens*), Brown-crested Flycatcher (*M. tyrannulus*), Dusky-capped Flycatcher (*M. tuberculifer*), Great Crested Flycatcher, La Sagra’s Flycatcher (*M. sagrae*), and Nutting’s Flycatcher (*M. nuttingi*) (Dunn and Alderfer 2017).



Figure 7. Great Crested Flycatcher (*Myiarchus crinitus*). Left view of the flycatcher sunbathing on the wooden deck, Bowie, Prince George's County, Maryland, 10 July 2019.



Figure 8. Great Crested Flycatcher. Front view of the flycatcher sunbathing on the wooden deck, Bowie, Prince George's County, Maryland, 10 July 2019.



Figure 9. Great Crested Flycatcher. Rear view of the flycatcher sunbathing on the wooden railing, Bowie, Prince George's County, Maryland, 10 July 2019.



Figure 10. Great Crested Flycatcher. Right rear view of the flycatcher sunbathing on the wooden deck, Bowie, Prince George's County, Maryland, 15 July 2019.

Table 4: Great Crested Flycatcher (*Myiarchus crinitus*) sunbathing episodes, Bowie, Maryland, summer 2019. Start times were read from a digital clock that only displayed minutes. Approximate durations were estimated with a kitchen timer.

Date	Start Time (2400 hours)	Approximate Duration (seconds)
10 July 2019	1304	60
10 July 2019	1306	30
10 July 2019	1311	40
15 July 2019	1459	120
15 July 2019	1504	10
15 July 2019	1525	(unknown)

Eight species do not occur in North America (Dunn and Alderfer 2017), but can be found in Middle America: Grenada Flycatcher (*M. nugator*), Lesser Antillean Flycatcher (*M. oberi*), Panama Flycatcher (*M. panamensis*), Puerto Rican Flycatcher (*M. antillarum*), Rufous-tailed Flycatcher (*M. validus*), Sad Flycatcher (*M. barbirostris*), Stolid Flycatcher (*M. stolidus*), and Yucatan Flycatcher (*M. yucatanensis*).

Great Crested Flycatcher

Although Miller and Lanyon (2014) reported finding no published data on sunbathing, Hauser (1957) had previously reported an observation of three Great Crested Flycatchers sunbathing on a compost heap composed primarily of elm leaves (*Ulmus* L. sp. [Ulmaceae]). Tallman (2011) and Bacquie (2016) photographed sunbathing Great Crested Flycatchers. On numerous occasions from 2009 through 2016, Johnson (2017) observed one or two Great Crested Flycatchers sunbathing on the vinyl cover of an outdoor spa in the summer.

Dusky-capped Flycatcher

Tweit and Twelit (2002) mention that Alexander Skutch had observed sunbathing behavior in this species. Skutch (1960) relates, “Once while I sat in a blind in the forest on Barro Colorado Island [Panama],... a Dusky-capped Flycatcher sunned itself in a patch of sun-shine that fell on a prostrate tree close beside me. Lying flat on the trunk, it spread its wings and fluffed out its body feathers to let the sun’s rays penetrate deeply into them.”

An online literature search for the four other North American species—Ash-throated Flycatcher (Cardiff and Dittmann 2002), Brown-crested Flycatcher (Cardiff and Dittmann 2000), La Sagra’s Flycatcher (Rodewald 2015), and

Nutting's Flycatcher (Rodewald 2015)—and for the eight Middle American *Myiarchus* species yielded no reports of sunbathing.

DISCUSSION

Much has been written about the possible functions of avian sunbathing (e.g., Hauser 1957, Lanyon 1958, Goodwin 1967, Kennedy 1969, Horsfall 1984, Naish 2013). Kennedy (1969) detailed six possible functions for sunbathing: 1) sunrise thermoregulation; 2) ectoparasite control; 3) drying upon leaving the water; 4) vitamin D production; 5) a possible role in molting; and 6) heightened production of uropygial gland secretions. One of our reviewers (anonymous, in litt, 30 April 2020) offered an additional hypothesis. Ectothermic reptiles engage in similar behavior to induce a febrile response to fight off pathogens. It is possible the birds could be self-inducing a fever to help fight off an infection. For a concise summary of the possible functions of avian sunbathing, we refer readers to Johnson (2017) and Watson (2017).

Johnson (2017) described typical sunbathing behavior. The bird would land on a horizontal surface, press its ventral surface against the substrate, splay its wings and tail against the substrate, then either slide along the substrate, remain stationary, or alternate between sliding and remaining stationary. The head of the bird would be horizontal or cocked upward with the mouth agape.

We suspect that, as suggested by Johnson (2017) and Watson (2017), the birds reported herein were sunbathing to control ectoparasites. As in the previous two instances documented in *Maryland Birdlife*, the ambient temperature was considerably too warm to account for thermoregulatory warming behavior.

As an aside, we note that the Blue-gray Gnatcatcher, Northern Cardinal, Carolina Wren, and Great Crested Flycatcher were sunbathing on the same deck as the Eastern Wood-Pewee reported in Watson (2017). It is likely there may be additional species using our deck for sunbathing but escaping our opportunistic observations.

Readers may be wondering why we did not remove the window screens to facilitate photography of the birds on the deck. The screens serve the purpose of deterring bird window strikes, and so we decided to leave them in place.

SUMMARY

Sunbathing by birds is most likely not a rare occurrence, but it has only been observed and reported for a small number of species. We encourage others to report their observations of sunbathing birds to add to the knowledge of this avian behavior.

ACKNOWLEDGMENTS

We thank Walter G. Ellison for providing pertinent sections of his Master of Science thesis and two anonymous reviewers for their helpful comments.

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**Maryland Entomological Society BugBlitz at the Maryland Ornithological Society's Carey Run Sanctuary, Garrett County, Maryland,
12–14 July 2019**

Eugene J. Scarpulla, Compiler

14207 Lakerun Court, Bowie, Maryland 20720-4861; ejscarp@comcast.net

[Editor's note: An abbreviated version of this article that only included the entomology results was published in the 2020 issue of The Maryland Entomologist (Scarpulla 2020).]

Abstract: The Maryland Entomological Society conducted a BugBlitz on 12–14 July 2019 at the Maryland Ornithological Society's Carey Run Sanctuary in Garrett County, Maryland. This was a cooperative effort between the two societies to help develop an inventory of the fauna of the sanctuary. Although the emphasis was on insect species, all identifiable fauna and flora were included in the results.

With reinvigoration of the Maryland Ornithological Society (MOS) Sanctuary Committee, it became apparent that little was known about the fauna and flora present at the Society's ten sanctuaries. It was decided to hold BioBlitzes at individual sanctuaries to help obtain this information. The first effort was trimmed down to a BugBlitz at the Carey Run Sanctuary (Figure 1) over the 12–14 July 2019 weekend that was coordinated by Gene Scarpulla and Marcia Watson, both members of MOS and the Maryland Entomological Society (MES).

LOCATION

Location information is excerpted from the “Carey Run MOS Sanctuary” and the “Carey Run Sanctuary (Garrett County)” websites (MOS 2020a, 2020b).

Carey Run Sanctuary was the first property to be purchased by MOS, which now owns ten sanctuaries across the state. The original purchase in 1962 was a 52-ac (21-ha) farm, complete with a farmhouse (Figure 2), which had been abandoned for several years. In 1973, MOS purchased another 110 ac (45 ha), bringing Carey Run to its current size of 162 ac (66 ha).



Figure 1. Entrance to Carey Run Sanctuary, Garrett County, Maryland. Photographed by Dominic Nucifora on 21 May 2017.



Figure 2. The farmhouse at Carey Run Sanctuary. Photographed by Dominic Nucifora on 21 May 2017.

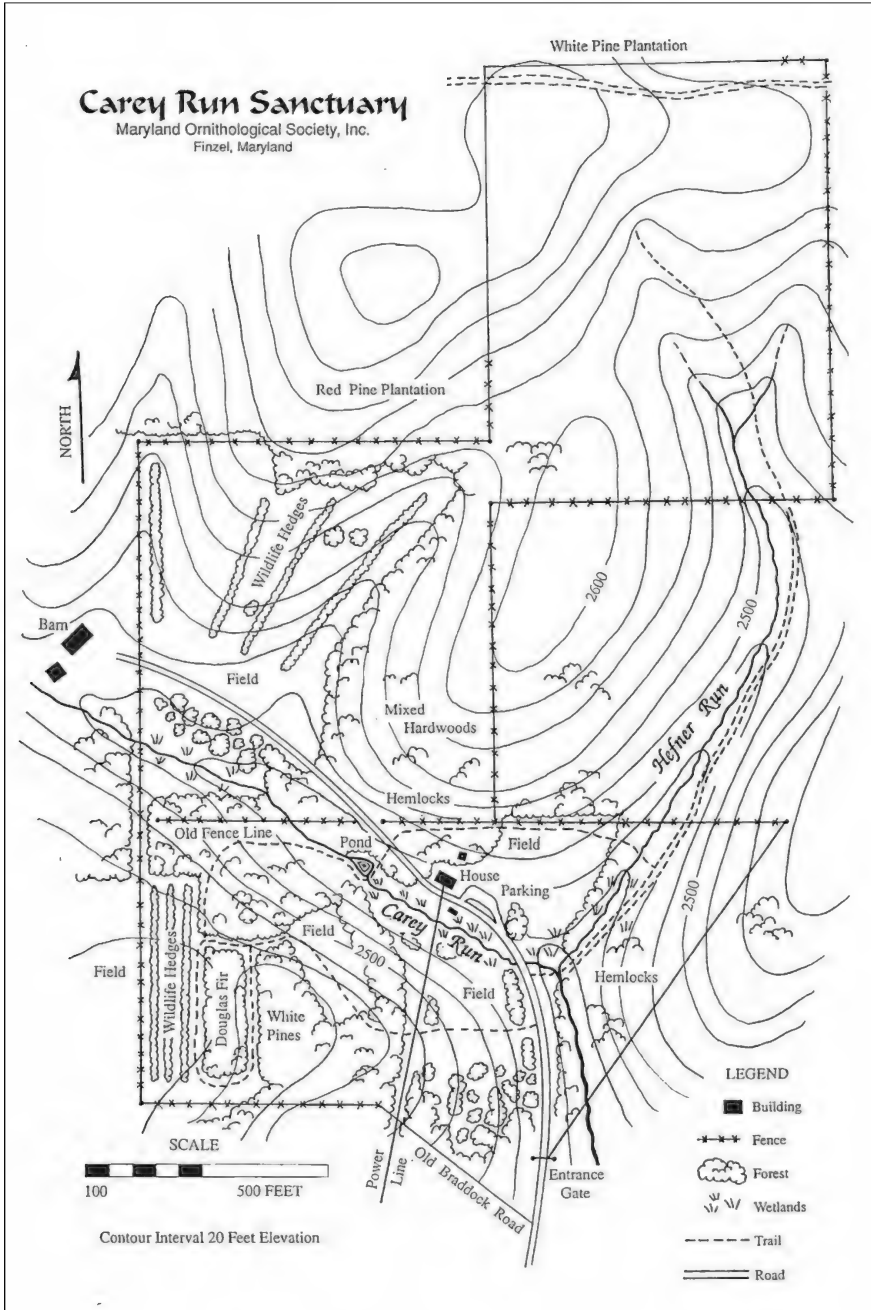


Figure 3. Carey Run Sanctuary.

The sanctuary is located in eastern Garrett County and is named for the stream, Carey Run, which flows through the property (Figure 3). Carey Run is a tributary of the Savage River and joins the river just outside the entrance to the sanctuary. Another stream, Hefner Run, flows into Carey Run within the sanctuary. The two stream valleys form a Y-shape that cradles the old farmhouse, built in 1887 from white pines, *Pinus strobus* L., grown on the property. A small freshwater pond (Figure 4), formed by damming Carey Run, is located a short distance from the house. The original dam was manmade but American Beavers, *Castor canadensis* Kuhl, occasionally assist in dam remodeling. There are also North American River Otters, *Lontra canadensis* (Schreber), at Carey Run Sanctuary, as well as American Black Bears, *Ursus americanus* Pallas, Coyotes, *Canis latrans* Say, and Timber Rattlesnakes, *Crotalus horridus* Linnaeus.

Carey Run Sanctuary has diverse plant communities. The majority of the land is covered by mixed deciduous forest interspersed with eastern hemlock, *Tsuga canadensis* (L.) Carrière, groves. The sanctuary also holds plantations of white pine and Douglas-fir, *Pseudotsuga menziesii* (Mirb.) Franco, planted when these species were important timber crops. There is a small meadow near the house; a large field and hedgerow combination, along with an old orchard, at the northwest border; and a set of wildlife hedges and grassy meadows in the southwest corner (Figure 5). The fields and meadows are mown once annually to maintain good habitat for a diverse assortment of grassland birds as well as for pollinators.

The many trails at Carey Run Sanctuary guide visitors through each of its habitats. The Old Braddock Road, which runs along the Sanctuary's southern border, has significant historical importance as the route created by British Major General Edward Braddock's troops during the French and Indian War in the mid-1700s. Interpretive signage marks the nature trail that parallels the historic road; the placards present a unique interweaving of the military history of the war, the natural history of the land, and the use of the land and its resources by the indigenous Native Americans. The interpretive trail and its signage were created in 2007 by T.C. Hager as an Eagle Scout project.

The Carey Run Sanctuary farmhouse is available from spring through fall for overnight stays by individuals or organized groups engaging in natural history projects. The house has a modernized kitchen, three bedrooms with bunk beds, and a small parlor, and is heated with two wood stoves. Advance reservations are necessary (MOS 2020b).



Figure 4. The pond located on Carey Run at the Carey Run Sanctuary.
Photographed by Dominic Nucifora on 21 May 2017.



Figure 5. Wildlife hedges and grassy meadows at Carey Run Sanctuary.
Photographed by Dominic Nucifora 13 September 2017.

METHODS

The 13 participants of the 12–14 July 2019 BugBlitz were John Bocan, Sam Droege, Tim Foard, Bob Gardner, Peggy Israel, Phil Kean, Sue Muller, Gene Scarpulla, Andrew Sharp, Joanne Sharp, Jackie Sin, Bob Trumbule, and Marcia Watson.

The participants employed various methods to document the fauna and flora of Carey Run Sanctuary. These methods included netting, bee bowls, four black light sheet arrays, photography, and acoustic recording of flyover bats.

RESULTS and DISCUSSION

Participants have provided summaries for taxa that have numerous observations.

ARACHNIDS

The sequence of arachnid orders is based on Zhang (2011). Taxonomy is based on Bradley (2013) and ITIS (2020).

Opiliones (harvestmen)

Sclerosomatidae

Leiobunum aldrichi (Weed) – a harvestman

Leiobunum aldrichi, which was photographed by me, represents a first record for the Maryland Biodiversity Project database. — *Marcia Watson*

Ixodida (ticks)

Ixodidae (hard ticks)

Dermacentor variabilis (Say) – American Dog Tick

Araneae (spiders)

Tetragnathidae (long-jawed orbweavers)

Leucauge venusta (Walckenaer) – Orchard Orbweaver

Thomisidae (crab spiders)

Misumessus oblongus (Keyserling) – a crab spider

INSECTS

The sequence of insect orders is based on Zhang (2011).

Ephemeroptera (mayflies)

Ephemeridae (common burrowing mayflies)

Ephemera blanda Traver – a mayfly

Odonata (dragonflies, damselflies)

Libellulidae (common skimmers)

Libellula luctuosa Burmeister – Widow Skimmer

Libellula vibrans Fabricius – Great Blue Skimmer

Plathemis lydia (Drury) – Common Whitetail

Orthoptera (grasshoppers, crickets, katydids)

Acrididae (short-horned grasshoppers)

Chortophaga viridifasciata (De Geer) – Northern Green-striped Grasshopper

Pseudochorthippus curtipennis (Harris) – Marsh Meadow Grasshopper

The Marsh Meadow Grasshopper was photographed by me and identified by Brandon Woo. Brandon noted that “This is a male *Pseudochorthippus curtipennis* (often seen under the old name *Chorthippus curtipennis*). Likes open wet meadows, and is more of a northern species, although it does sneak down into the Appalachians - so makes sense that it occurs in Garrett County. Doesn’t look like there are any Maryland records on BugGuide, iNaturalist, or Maryland Biodiversity Project as of yet!” — *Marcia Watson*

Phasmida (phasmids)

Diapheromeridae

Diapheromera femorata (Say) – Northern Walkingstick

Plecoptera (stoneflies)

[family unknown]

an adult stonefly sp.

Hemiptera (true bugs)

Aphididae: Eriosomatinae (woolly aphids)

a woolly aphid sp.

Cicadellidae (leaf hoppers)

Graphocephala Van Duzee sp. – a leafhopper sp.

Some BugBlitz participants reported not seeing any Hemlock Woolly Adelgids, *Adelges tsugae* Annand (Adelgidae), in the eastern hemlock groves. — *Gene Scarpulla*

Hymenoptera (bees only)

Taxonomy is based on Michener (2007), Ascher and Pickering (2020), and ESA (2020).

Colletidae (plasterer bees, polyester bees)

Hylaeus affinis (Smith) – a yellow-faced bee

Hylaeus affinis (Smith) or *H. modestus* Say – a yellow-faced bee

Andrenidae (mining bees)

Andrena wilkella (Kirby) – a mining bee

Halictidae (sweat bees)

Agapostemon texanus Cresson – a green sweat bee

Augochlora pura (Say) – a green sweat bee

Augochlorella aurata (Smith) – a green sweat bee

Halictus ligatus Say – a sweat bee

Halictus rubicundus (Christ) – a sweat bee

Lasioglossum acuminatum McGinley – a sweat bee

Lasioglossum coeruleum (Robertson) – a sweat bee

Lasioglossum coriaceum (Smith) – a sweat bee

Lasioglossum cressonii (Robertson) – a sweat bee

Lasioglossum gotham Gibbs – a sweat bee

Lasioglossum hitchensi Gibbs – a sweat bee

Lasioglossum lineatulum (Crawford) – a sweat bee

Lasioglossum nigroviride (Graenicher) – a sweat bee

Lasioglossum oceanicum (Cockerell) – a sweat bee

Lasioglossum pectorale (Smith) – a sweat bee

Lasioglossum tegulare (Roberson) – a sweat bee

Lasioglossum versans (Lovell) – a sweat bee

Lasioglossum versatum (Robertson) – a sweat bee

Megachilidae (leafcutting bees, resin bees)

Megachile inermis Provancher – a leafcutting bee

Megachile mendica Cresson – a leafcutting bee

Megachile relativa Cresson – a leafcutting bee

Apidae (long-horned bees, honey bees, bumble bees, carpenter bees)

Bombus bimaculatus Cresson – Two-spotted Bumble Bee

Bombus impatiens Cresson – Common Eastern Bumble Bee

Bombus vagans Smith – Half-black Bumble Bee

Bombus terricola Kirby – Yellow-banded Bumble Bee

Melissodes desponsus Smith – a long-horned bee

For bee diversity, July is the ebb tide of the year; the spring bees have finished flying and the fall bees have yet to begin. Remaining are mostly bees that are either colonial (*Bombus* species), eusocial (*Lasioglossum* species), and a few bees that are just beginning to exploit the late summer flowers or may have multiple generations (*Megachile* species). Additionally, we have *Andrena wilkella* which is an introduced late-spring species with a broad range of preferences for weedy plant species and *Melissodes desponsus* which is a thistle specialist (a few thistles were just beginning to bloom on the Sanctuary).

While most of the species on the list are common and expected, it was significant to see the two female specimens of *Bombus terricola* (Yellow-banded Bumble Bee) that were captured at the Sanctuary on 14 July 2019. This is an “S1 Critically Imperiled / Highly State Rare” species “At very high risk of extinction or extirpation due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.” (Maryland Natural Heritage Program 2016). These specimens represent only the second recent record of the species in Maryland (there was one previous Garrett County specimen, a male at Rock Lodge Trust, near McHenry on 7 July 2012) and it is one of the few known records for the state. This species underwent population decreases throughout its range over the past few decades, most likely from introduced pathogens; thus, it is significant and nice to see that this species is still present in the state on the protected grounds of the Sanctuary. — *Sam Droege*

Hymenoptera (wasps only)

Taxonomy is based on Bohart and Menke (1976), Bohart and Kimsey (1979, 1982), Kimsey and Bohart (1990), Goulet and Huber (1993), Buck et al. (2008), and ITIS (2020).

Chrysididae (cuckoo wasps)

Hedychrum confusum Buysson – a cuckoo wasp

Hedychrum parvum Aaron – a cuckoo wasp

Crabronidae (sand wasps)

Ectemnius borealis (Zetterstedt) – a sand wasp (♂)

Ectemnius lapidarius (Panzer) – a sand wasp (♂ and ♀)

Ichneumonidae (ichneumon wasps)

an ichneumon wasp sp.

Tenthredinidae (common sawflies)

a common sawfly sp.

Vespidae (hornets, paper wasps, potter wasps, yellowjackets)

Polistes Latreille sp. – a paper wasp sp.

Symmorphus canadensis (de Saussure) – a potter wasp

Hymenoptera (ants only)

Taxonomy is based on Ellison et al. (2012) and ITIS (2020).

Formicidae (ants)

Aphaenogaster rudis Enzmann – Rough Aphaenogaster
Aphaenogaster picea (Wheeler) – Pitch-black Aphaenogaster
Camponotus pennsylvanicus (De Geer) – Black or Eastern Carpenter Ant
Camponotus nearcticus Emery – Nearctic Carpenter Ant
Crematogaster lineolata (Say) – Small-lined Crematogaster
Formica incerta Buren – Uncertain Ant
Formica neogagates Viereck species 1 – New World Black Ant species 1
Formica neogagates Viereck species 2 – New World Black Ant species 2
Formica subsericea Say – Somewhat Silky Ant
Lasius umbratus (Nylander) – Shaded Fuzzy Ant
Lasius nearcticus Wheeler – New World Fuzzy Ant
Lasius americanus Emery – New World Cornfield Ant
Myrmecina americana Emery – American Myrmecina
Myrmica punctiventris Roger – Punctured Ant
Myrmica species code AF-smi – an undescribed species
Prenolepis imparis (Say) – Winter Ant
Solenopsis molesta (Say) – Thief Ant
Stenamma impar Forel – Odd Stenamma
Tapinoma sessile (Say) – Odorous House Ant

Most of the ants identified during the BugBlitz were species which are widely distributed throughout the state. No habitat specialists, state records, or invasive species were found. Despite that, there were several observations of the ant fauna which are worthy of note. The first is that three unnamed species were collected during the survey. Within the *Formica neogagates* species group, Fisher and Cover (2007) recognized a few valid species and posited that additional ones might currently be lumped within “*F. neogagates*” and “*F. lasioides* Emery”. One of the two collected species could very well be identified as “*F. neogagates sensu stricto*” once the taxonomy of the species group is finally resolved.

Another observation, also pertaining to the genus *Formica*, was that there were fewer species recorded from this survey than expected. Within the state, the genus reaches its greatest diversity in the western half and in the higher elevations. At least twice the number of collected species were expected at the start of the BugBlitz. The species which were collected are very common species elsewhere in the state, but were not observed to be common on the property. Conspicuously absent were the mound-building *Formica* species. The low diversity was the most surprising observation, given the large open areas

present at Carey Run Sanctuary which would be ideal for the establishment of several species in this genus.

The final observation may help explain in part the low *Formica* diversity observed. Extensive sweeping in the grassland area resulted in large numbers of a species of *Myrmica*. At first, so many were recovered from the sweep net that they were suspected of being the invasive European species *M. rubra* (Linnaeus). This suspicion was also coupled with the observation that there was an abundance of small low mounds (five were counted in 1 m² [10.8 ft²]). It was not until much later after the BugBlitz that identification of the *Myrmica* species was made and it turned out to be *Myrmica* species code AF-smi. The abundance of *Myrmica* colonies may have prevented the establishment of *Formica* colonies and it would explain why very few *Formica* species were encountered in this habitat and it opens up promising research into the biology of an undescribed species. — *Tim Foard*

Coleoptera (beetles)

Taxonomy is based on Arnett et al. (2001, 2002), Evans (2014), and ITIS (2020).

Carabidae (ground beetles)

Dicaelus teter Bonelli – a ground beetle

Pterostichus Bonelli sp. – a ground beetle sp.

Silphidae (carrion beetles)

Necrophila americana (Linnaeus) – American Carrion Beetle

Nicrophorus tomentosus Weber – Tomentose Burying Beetle

Scarabaeidae (scarab beetles)

Popillia japonica Newman – Japanese Beetle

Lampyridae (fireflies)

Photuris Dejean sp. – a firefly sp.

Cantharidae (soldier beetles)

Pacificanthia rotundicollis (Say) – a soldier beetle

Nitidulidae (sap beetles)

Glischrochilus sanguinolentus (Olivier) – a sap beetle

Endomychidae (handsome fungus beetles)

Mycetina perpulchra (Newman) – a handsome fungus beetle

Coccinellidae (ladybird beetles)

Harmonia axyridis (Pallas) – Multicolored Asian Lady Beetle

Meloidae (blister beetles)

Epicauta funebris Horn – Margined Blister Beetle

Cerambycidae (long-horned beetles)

Lepturopsis biforis (Newman) – a flower long-horned beetle

Saperda candida Fabricius – Round-headed Apple Tree Borer

Typocerus velutinus (Olivier) – Banded Longhorn

Chrysomelidae (leaf beetles)

Chrysochus auratus (Fabricius) – Dogbane Beetle

Deloyala guttata (Olivier) – Mottled Tortoise Beetle

Leptinotarsa juncta (Germar) – False Potato Beetle

Trirhabda J.L. LeConte sp. – a skeletonizing leaf beetle sp.

Megaloptera (alderflies, dobsonflies, fishflies)

Corydalidae (dobsonflies, fishflies)

Chauliodes pectinicornis (Linnaeus) – Summer Fishfly

Lepidoptera (butterflies only)

Taxonomy is based on Glassberg (1999) and ITIS (2020).

Papilionidae (swallowtails)

Battus philenor (Linnaeus) – Pipevine Swallowtail

Papilio polyxenes Fabricius – Black Swallowtail

Papilio glaucus Linnaeus – Eastern Tiger Swallowtail

Pieridae (whites, yellows)

Pieris rapae (Linnaeus) – Cabbage White

Colias philodice Godart – Clouded Sulphur

Colias eurytheme Boisduval – Orange Sulphur

Phoebis sennae (Linnaeus) – Cloudless Sulphur

Lycaenidae (gossamer-wings)

Satyrrium titus (Fabricius) – Coral Hairstreak

Cupido comyntas (Godart) – Eastern Tailed-Blue

Celastrina neglecta (W. H. Edwards) – Summer Azure

Nymphalidae (brushfoots)

Speyeria cybele (Fabricius) – Great Spangled Fritillary

Speyeria aphrodite (Fabricius) – Aphrodite Fritillary

Phyciodes tharos (Drury) – Pearl Crescent

Euphydryas phaeton (Drury) – Baltimore Checkerspot

Polygonia comma (T. Harris) – Eastern Comma

Vanessa atalanta (Linnaeus) – Red Admiral

Junonia coenia Hübner – Common Buckeye

Limenitis arthemis astyanax (Fabricius) – Red-spotted Purple

Lethe anthedon (A. Clark) – Northern Pearly-eye

Lethe appalachia R. Chermock – Appalachian Brown

Cercyonis pegala (Fabricius) – Common Wood-Nymph

Danaus plexippus (Linnaeus) – Monarch

Hesperiidae (skippers)

Epargyreus clarus (Cramer) – Silver-spotted Skipper

Pyrgus communis (Grote) – Common Checkered-Skipper
Polites origenes (Fabricius) – Crossline Skipper
Wallengrenia egeremet (Scudder) – Northern Broken Dash
Pompeius verna (W. H. Edwards) – Little Glassywing
Anatrytone logan (W. H. Edwards) – Delaware Skipper
Euphyes vestris (Boisduval) – Dun Skipper

In surveying the property for butterflies, 29 species of butterflies and skippers were recorded. The majority were common species that are virtually statewide in distribution, one exception being *Speyeria aphrodite* (Aphrodite Fritillary) which is primarily found in the Appalachian Plateau and Ridge and Valley regions (Smith 2014). Its numbers seem to be declining in some of its usual locations.

One notable migrant was *Phoebis sennae* (Cloudless Sulphur). While this southern species regularly reaches Maryland in most years, it is usually to be expected in late summer or fall. Our sighting of this species was probably a little earlier than normal this far from Maryland's coastal counties.

Three species of satyrines (Nymphalidae: Satyrinae) were also observed. They were *Cercyonis pegala* (Common Wood-Nymph), *Lethe anthedon* (Northern Pearly-eye), and *Lethe appalachia* (Appalachian Brown). While fairly widespread in Maryland, all three of these species tend to be found in localized colonies.

The most notable species recorded was *Euphydryas phaeton* (Baltimore Checkerspot) (Figure 6) which is an "S2 Imperiled / State Rare" species that is "At high risk of extinction or extirpation due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors." (Maryland Natural Heritage Program 2016). Two definite sightings of this species, our Maryland State Insect, were made during the survey.

On a final note, there was one other interesting find made on the trip. Among the skippers found on the Sanctuary was *Anatrytone logan* (Delaware Skipper). While being fairly widespread in Maryland, it is also known to be a rather uncommon species. Indeed, during our survey, only a couple of individuals were sighted during the entire day. However, over a dozen specimens were found as bycatch in Gene Scarpulla's "bee bowls". — *Phil Kean*



Figure 6. Baltimore Checkerspot, *Euphydryas phaeton* (Drury) at Carey Run Sanctuary. Photographed by Tim Foard, 13 July 2019.

Lepidoptera (moths only)

Taxonomy is based on Beadle and Leckie (2012) and ITIS (2020).

Bucculatricidae (ribbed cocoon-making moths)

Bucculatrix ainsliella Murtfeldt – Oak Skeletonizer (caterpillar)

Limacodidae (slug moths)

Prolimacodes badia (Hübner) – Skiff Moth

Isa textula (Herrich-Schäffer) – Crowned Slug Moth

Pyrilidae (grass moths, snout moths)

Pyralis farinalis Linnaeus – Meal Moth

Crambidae (crambid snout moths)

Udea rubigalis (Guenée) – Celery Leaf-tier

Pantographa limata (Grote and Robinson) – Basswood Leafroller Moth

Geometridae (geometer moths, looper moths)

Rheumaptera prunivora (Ferguson) – Cherry Scallop Shell

Euphyia intermediata (Guenée in Boisduval and Guenée) – Sharp-angled Carpet

Trichodezia albovittata (Guenée in Boisduval and Guenée) – White-striped Black

Scopula limboundata (Haworth) – Large Lace-border

Speranza pustularia (Guenée in Boisduval and Guenée) – Lesser Maple Spanworm

Digrammia ocellinata (Guenée in Boisduval and Guenée) – Faint-spotted Angle

Protoboarmia porcelaria (Guenée in Boisduval and Guenée) – Porcelain Gray

Biston betularia (Linnaeus) – Pepper-and-salt Geometer

Cabera variolaria Guenée in Boisduval and Guenée – Pink-Striped Willow Spanworm (The Vestal)

Phaeoura quernaria (Smith in Smith and Abbot) – Oak Beauty

Eugonobapta nivosaria (Guenée in Boisduval and Guenée) – Snowy Geometer

Eutrapela clemataria (Smith in Smith and Abbot) – Curved-Toothed Geometer

Prochoerodes lineola (Goeze) – Large Maple Spanworm

Saturniidae (giant silkworm moths, royal moths)

Dryocampa rubicunda (Fabricius) – Rosy Maple Moth

Automeris io (Fabricius) – Io Moth

Callosamia promethea (Drury) – Promethea Silkmoth

Sphingidae (hawk moths, sphinx moths)

Ceratomia undulosa (Walker) – Waved Sphinx

Paonias excaecata (J. E. Smith) – Blinded Sphinx

Paonias myops (J. E. Smith) – Small-eyed Sphinx

Notodontidae (prominents)

Peridea basitriens (Walker) – Oval-based Prominent

Erebidae (tiger moths, tussock moths, underwings, zales)

Lymantria dispar (Linnaeus) – Gypsy Moth (egg masses)

Hypoprepia fucosa Hübner – Painted Lichen Moth

Phragmatobia fuliginosa (Linnaeus) – Ruby Tiger Moth

Halysidota tessellaris (J. E. Smith) – Banded Tussock Moth

Lophocampa caryae Harris – Hickory Tussock Moth

Cynia tenera Hübner – Delicate Cynia

Ctenucha virginica (Esper) – Virginia Ctenucha

Zanclognatha laevigata (Grote) – Variable Fan-Foot

Catocala crataegi Saunders – Hawthorn Underwing

Catocala blandula Hulst – Charming Underwing

Zale lunata (Drury) – Lunate Zale

Zale minerea (Guenée) – Colorful Zale

Euparthenos nubilis (Hübner) – Locust Underwing

Panopoda rufimargo (Hübner) – Red-lined Panopoda

Noctuidae (cutworms, dagger moths, owlet moths)

Panthea acronyctoides (Walker) – Black Zigzag

Loscopia velata (Walker) – Veiled Ear Moth
Polia nimbosa (Guenée) – Stormy Arches

On the evenings of 13 and 14 July 2019, moths were observed and recorded via black light or mercury vapor lights. Over the two evenings, a total of 41 moth species were recorded representing ten families. Two more species were added during the day: *Bucculatrix ainsliella* (an Oak Skeletonizer caterpillar) and *Lymantria dispar* (Gypsy Moth egg masses). The families with the most species were Geometridae (13) and Erebidae (14). Of the 43 total species recorded, five (three erebids and two noctuids) are to be noted as more northerly United States species. The first erebid, *Phragmatobia fuliginosa* (Ruby Tiger Moth), is primarily a much more northerly species. In Maryland, it occurs in Garrett and Allegany Counties and occasionally has been found along the northern tier of Maryland counties. The two other erebids are *Catocala blandula* (Charming Underwing), a more northerly species, and *Catocala crataegi* (Hawthorn Underwing), a more northerly and westerly species, both of their distributions extending south along the Appalachian Mountains. Both species are primarily found in Western Maryland, with *C. blandula* records extending eastward in Maryland counties just south of the Mason-Dixon Line. The two noctuids, *Panthea acronyctoides* (Black Zigzag) and *Polia nimbosa* (Stormy Arches), are more northerly species whose distribution extends down the Appalachian Mountains. While *P. nimbosa* occurs in Western Maryland, *P. acronyctoides* only occurs in far Western Maryland. — Bob Gardner

Diptera (gnats, mosquitoes, true flies)

Taxonomy is based on McAlpine (1981, 1987, 1989) and ITIS (2020).

Tipulidae (crane flies)

Tipula metacomet Alexander – a large crane fly

Ptychopteridae (phantom crane flies)

Bittacomorpha clavipes (Fabricius) – a phantom crane fly

Culicidae (mosquitoes)

Aedes Meigen sp. – a mosquito sp.

Tabanidae (deer flies, horse flies)

Chrysops Meigen sp. – a deer fly sp.

Asilidae (robber flies)

Laphria Meigen sp. – a bee-like robber fly sp.

Syrphidae (flower flies)

Eristalis tenax (Linnaeus) – Common Drone Fly

Spilomyia fusca Loew – Bald-faced Hornet Fly

Toxomerus marginatus (Say) – Margined Calligrapher

Agromyzidae (leafminer flies)

Phytoliriomyza melampyga (Loew) – Jewelweed Leafminer

Mecoptera (scorpionflies, hangingflies, snowflies)**Panorpidae (common scorpionflies)**

Panorpa Linnaeus sp. – a common scorpionfly sp.

FISHES

Taxonomy is based on Rohde et al. (1994) and ITIS (2020)

Cyprinidae (carps, minnows)

Pimephales notatus (Rafinesque) – Bluntnose Minnow

AMPHIBIANS

Taxonomy is based on Cunningham and Nazdrowicz (2018) and ITIS (2020).

Plethodontidae (lungless salamanders)

Desmognathus ochrophaeus Cope – Allegheny Mountain Dusky Salamander

Plethodon cinereus (Green) – Eastern Red-backed Salamander

Plethodon glutinosus (Green) – Northern Slimy Salamander

Salamandridae (salamanders, newts)

Notophthalmus viridescens (Rafinesque) – Eastern Newt

Bufonidae (toads)

Anaxyrus fowleri (Hinckley) – Fowler's Toad

Ranidae (true frogs)

Lithobates catesbeianus (Shaw) – American Bullfrog

Lithobates clamitans (Latreille in Sonnini de Manoncourt and Latreille) – Green Frog

According to the Maryland Biodiversity Project, 43 species of amphibians are found throughout Maryland. During the BugBlitz at Carey Run Sanctuary, one of the Western Maryland specialties was found, the Allegheny Mountain Dusky Salamander. This species has been documented in both Garrett and western Allegheny Counties. It was found under a log near a seep. Also observed was the Northern Slimy Salamander which is commonly found in the western counties. The best find for the weekend though was the Fowler's Toad. During the Maryland Amphibian and Reptile Atlas (2010–2014), this species was not documented in Garrett County (Cunningham and Nazdrowicz 2018).

Additionally, four species commonly found throughout the state were observed. All species were identified by me, a longtime MOS member who served as the Howard County Coordinator for the Maryland Amphibian and Reptile Atlas.

— Sue Muller

REPTILES

Surprisingly, no turtles, lizards, or snakes were observed at the Carey Run Sanctuary. — *Gene Scarpulla*

BIRDS

Taxonomy is based on Chesser et al. (2019) and ITIS (2020).

Anatidae (waterfowl)

Anas platyrhynchos Linnaeus – Mallard

Columbidae (doves, pigeons)

Zenaidura macroura (Linnaeus) – Mourning Dove

Cuculidae (cuckoos)

Coccyzus americanus (Linnaeus) – Yellow-billed Cuckoo

Coccyzus erythrophthalmus (A. Wilson) – Black-billed Cuckoo

Trochilidae (hummingbirds)

Archilochus colubris (Linnaeus) – Ruby-throated Hummingbird

Accipitridae (hawks)

Buteo jamaicensis (Gmelin) – Red-tailed Hawk

Strigidae (typical owls)

Strix varia Barton – Barred Owl

Alcedinidae (kingfishers)

Megasceryle alcyon (Linnaeus) – Belted Kingfisher

Picidae (woodpeckers)

Melanerpes carolinus (Linnaeus) – Red-bellied Woodpecker

Dryobates pubescens (Linnaeus) – Downy Woodpecker

Dryobates villosus (Linnaeus) – Hairy Woodpecker

Colaptes auratus (Linnaeus) – Northern Flicker

Tyrannidae (tyrant flycatchers)

Myiarchus crinitus (Linnaeus) – Great Crested Flycatcher

Contopus virens (Linnaeus) – Eastern Wood-Pewee

Empidonax virescens (Vieillot) – Acadian Flycatcher

Vireonidae (vireos)

Vireo griseus (Boddaert) – White-eyed Vireo

Vireo solitarius (A. Wilson) – Blue-headed Vireo

Vireo gilvus (Vieillot) – Warbling Vireo

Vireo olivaceus (Linnaeus) – Red-eyed Vireo

Corvidae (jays, crows, ravens)

Cyanocitta cristata (Linnaeus) – Blue Jay

Corvus brachyrhynchos C.L. Brehm – American Crow

Corvus corax Linnaeus – Common Raven

Paridae (chickadees, titmice)

Poecile atricapillus (Linnaeus) – Black-capped Chickadee

Baeolophus bicolor (Linnaeus) – Tufted Titmouse

Sittidae (nuthatches)

Sitta carolinensis Latham – White-breasted Nuthatch

Troglodytidae (wrens)

Troglodytes aedon Vieillot – House Wren

Thryothorus ludovicianus (Latham) – Carolina Wren

Poliophtilidae (gnatcatchers)

Poliophtila caerulea (Linnaeus) – Blue-gray Gnatcatcher

Turdidae (thrushes)

Hylocichla mustelina (Gmelin) – Wood Thrush

Turdus migratorius Linnaeus – American Robin

Mimidae (mimics)

Dumetella carolinensis (Linnaeus) – Gray Catbird

Toxostoma rufum (Linnaeus) – Brown Thrasher

Fringillidae (finches)

Spinus tristis (Linnaeus) – American Goldfinch

Emberizidae (New World sparrows)

Spizella pusilla (A. Wilson) – Field Sparrow

Melospiza melodia (A. Wilson) – Song Sparrow

Pipilo erythrophthalmus (Linnaeus) – Eastern Towhee

Icteriidae (Yellow-breasted Chat)

Icteria virens (Linnaeus) – Yellow-breasted Chat

Icteridae (blackbirds)

Dolichonyx oryzivorus (Linnaeus) – Bobolink

Icterus galbula (Linnaeus) – Baltimore Oriole

Agelaius phoeniceus (Linnaeus) – Red-winged Blackbird

Parulidae (New World warblers)

Seiurus aurocapilla (Linnaeus) – Ovenbird

Parkesia motacilla (Vieillot) – Louisiana Waterthrush

Mniotilta varia (Linnaeus) – Black-and-white Warbler

Geothlypis trichas (Linnaeus) – Common Yellowthroat

Setophaga americana (Linnaeus) – Northern Parula

Setophaga magnolia (A. Wilson) – Magnolia Warbler

Setophaga petechia (Linnaeus) – Yellow Warbler

Setophaga pensylvanica (Linnaeus) – Chestnut-sided Warbler

Setophaga pinus (Linnaeus) – Pine Warbler

Setophaga virens (J. F. Gmelin) – Black-throated Green Warbler

Cardinalidae (cardinals and their allies)

Piranga olivacea (J. F. Gmelin) – Scarlet Tanager

Cardinalis cardinalis (Linnaeus) – Northern Cardinal

Pheucticus ludovicianus (Linnaeus) – Rose-breasted Grosbeak

Passerina cyanea (Linnaeus) – Indigo Bunting

From the morning of 12 July through the evening of 14 July, I used eBird mobile to keep a tally of birds seen and heard while walking the trails at Carey Run Sanctuary and while taking breaks near the house. Since one of my goals for the weekend was to produce a map of the Sanctuary trail system, I walked the trails in a different section of the Sanctuary each morning or afternoon, with very little duplication of trail coverage over the weekend. In all, I spent 23 hours and 10 minutes walking a total of 9.8 mi (15.8 km) on the Carey Run trails. While walking, I frequently stopped to observe birds and to photograph birds, insects, and plants.

A total of 54 species of birds were observed at the Sanctuary from 12 July through 14 July. The majority, if not all, were resident breeding birds. No rarities were found. One somewhat unexpected bird was a lone female Bobolink seen along the edge of the small meadow just northeast of the farmhouse; I say “unexpected” because Bobolinks are flocking birds and no others were seen or heard.

Red-eyed Vireos were the most numerous species observed, with 32 individuals counted; followed by House Wrens with 27 individuals. The House Wrens were particularly noticeable because their loud songs rang out from every suitable pocket of habitat. Other prevalent birds included Black-capped Chickadee (20), Eastern Towhee (20), American Robin (19), Common Yellowthroat (19), Northern Cardinal (16), Indigo Bunting (16), Tufted Titmouse (14), Song Sparrow (14), American Crow (13), American Goldfinch (13), Gray Catbird (12), Blue-gray Gnatcatcher (11), and Red-winged Blackbird (10). The remainder of the bird species were present in single-digit numbers.

Some expected resident breeding birds were not observed during the BugBlitz weekend, including Eastern Bluebird and Tree Swallow, both of which are known to use nest box structures at the Sanctuary (Devlin and Willner 1982, Willner et al. 1983). Most likely, breeding had ceased by the time of the BugBlitz and the adults and young had already dispersed. The absence of Eastern Bluebirds and Tree Swallows might also be related to the prevalence of House Wrens, which compete with bluebirds and swallows for nest boxes. House Wrens were observed occupying several, but not all, of the nest boxes at the Sanctuary; most nest boxes were unoccupied at the time of the BugBlitz.

— *Marcia Watson*

MAMMALS

Taxonomy is based on Vaughan et al. (2015) and ITIS (2020).

Sciuridae (squirrels, marmots, chipmunks)

Tamias striatus (Linnaeus) – Eastern Chipmunk

Castoridae (beavers)

Castor canadensis Kuhl – American Beaver

Soricidae (shrews)

a shrew sp.

Vespertilionidae (evening bats, common bats)

Eptesicus fuscus (Palisot de Beauvois) – Big Brown Bat [*pending audiogram confirmation*]

a second smaller bat species [*pending audiogram confirmation*]

Mustelidae (weasels, badgers, otters)

Lontra canadensis (Schreber) – North American River Otter

Cervidae (caribou, deer, moose, wapiti)

Odocoileus virginianus (Zimmermann) – White-tailed Deer

FUNGI

Taxonomy is based on MycoBank (2019).

Agaricaceae

Crucibulum laeve (Huds.) Kambly – White-egg Bird's Nest Fungus

Amanitaceae

Amanita flavoconia G.F. Atk. – Yellow Patches

Amylostereaceae

Artomyces pyxidatus (Pers.) Jülich – Crown-tipped Coral

Chlorociboriaceae

Chlorociboria aeruginascens (Nyl.) Kanouse ex C.S. Ramamurthi, Korf & L.R. Batra – Green Stain Mushroom

Cordycipitaceae

Akanthomyces aculeatus Lebert – [no common name]

Hymenochaetaceae

Phellinus robiniae (Murrill) A. Ames – Cracked Cap Polypore

Mycocaliciaceae

Phaeocalicium polyporaeum (Nyl.) Tibell – Fairy Pins

Physalacriaceae

Armillaria mellea (Vahl) P. Kumm. – Honey Mushroom

Polyporaceae

Polyporus arcularius (Batsch) Fr. – Spring Polypore

Trichaptum biforme (Fr.) Ryvarden – Violet-toothed Polypore

Pucciniaceae

Puccinia podophylli Schwein. – Mayapple Rust

Pyronemataceae

Scutellinia scutellata (L.) Lambotte – Eyelash Cup

Reticulariaceae

Lycogala epidendrum (L.) Fr. – Wolf’s Milk

Stereaceae

Xylobolus frustulatus (Pers.) Boidin – Ceramic Parchment

Xylariaceae

Xylaria Hill ex Schrank sp. – [no common name] sp.

The Maryland Biodiversity Project (MBP) has documented 646 fungi and 50 slime mold species throughout the state. Fifteen of these species were documented in just one July weekend at Carey Run Sanctuary. Of the 15 species, five were MBP first records for Garrett County and Western Maryland: *Amanita flavoconia* (Yellow Patches), *Artomyces pyxidatus* (Crown-tipped Coral), *Akanthomyces aculeatus* (no common name), *Polyporus arcularius* (Spring Polypore), and *Xylaria* sp. (no common name). Ideally, fungi would be sampled year-round. The species documented during the BugBlitz, were just a small sampling of the fungi waiting to be discovered at Carey Run Sanctuary. All fungi species were verified by Bob and Jo Solem, longtime MOS members who have been studying fungi for more than a decade. — *Sue Muller*

FLORA

Taxonomy is based on USDA, NRCS (2020). “I” indicates an introduced species and its general native range (Christopher T. Frye, in litt., 28 April 2020).

Aceraceae (maple)

Acer platanoides L. – Norway Maple [I – Europe]

Acer rubrum L. – Red Maple

Acer saccharum Marshall – Sugar Maple

Apiaceae (carrot)

Daucus carota L. – Queen Anne’s Lace [I – Europe]

Apocynaceae (dogbane)

Apocynum L. sp. – dogbane sp.

Vinca minor L. – Common Periwinkle [I – Europe]

Araceae (arum)

Arisaema triphyllum (L.) Schott – Jack in the Pulpit

Asclepiadaceae (milkweed)

Asclepias exaltata L. – Poke Milkweed

Asclepias syriaca L. – Common Milkweed

Asteraceae (aster)

Achillea millefolium L. – Common Yarrow

Arctium L. sp. – burdock sp. [I – Europe/Asia]

Centaurea stoebe L. – Spotted Knapweed [I – Europe]

Cirsium Mill. sp. – thistle sp.

Erigeron annuus (L.) Pers. – Eastern Daisy Fleabane

Packera aurea (L.) Á. Löve & D. Löve – Golden Ragwort

Rudbeckia hirta L. – Blackeyed Susan

Solidago L. spp. – goldenrod spp.

Balsaminaceae (touch-me-not)

Impatiens capensis Meerb. – Jewelweed

Berberidaceae (barberry)

Berberis thunbergii DC. – Japanese Barberry [I – Japan]

Podophyllum peltatum L. – Mayapple

Betulaceae (birch)

Betula alleghaniensis Britton – Yellow Birch

Betula L. spp. – birch spp.

Carpinus caroliniana Walter – American Hornbeam

Ostrya virginiana (Mill.) K. Koch – Hophornbeam

Brassicaceae (mustard)

Alliaria petiolata (M. Bieb.) Cavara & Grande – Garlic Mustard [I – Europe]

Campanulaceae (bellflower)

Lobelia inflata L. – Indian-tobacco

Caryophyllaceae (pink)

Dianthus armeria L. – Deptford Pink [I – Europe]

Cyperaceae (sedge)

Carex L. spp. – sedge spp.

Dennstaedtiaceae (bracken fern)

Dennstaedtia punctilobula (Michx.) T. Moore – Eastern Hayscented Fern

Dioscoreaceae (yam)

Dioscorea villosa L. – Wild Yam

Dryopteridaceae (wood fern)

Athyrium filix-femina (L.) Roth – Common Ladyfern

Onoclea sensibilis L. – Sensitive Fern

Polystichum acrostichoides (Michx.) Schott – Christmas Fern

Elaeagnaceae (oleaster)

Elaeagnus L. sp. – oleaster sp. [I – Europe/Asia]

Fabaceae (pea)

Medicago lupulina L. – Black Medick [I – Europe]

Robinia pseudoacacia L. – Black Locust

Trifolium pratense L. – Red Clover [I – Europe]

Trifolium L. sp. – clover sp. [I – Nearly all species one would encounter in Garrett County are introduced.]

Fagaceae (beech)

Fagus grandifolia Ehrh. – American Beech

Quercus alba L. – White Oak

Quercus coccinea Münchh. – Scarlet Oak

Quercus rubra L. – Northern Red Oak

Hamamelidaceae (witch-hazel)

Hamamelis virginiana L. – American Witchhazel

Juglandaceae (walnut)

Carya ovata (Mill.) K. Koch – Shagbark Hickory

Lamiaceae (mint)

Clinopodium vulgare L. – Wild Basil

Collinsonia canadensis L. – Richweed

Monarda didyma L. – Scarlet Beebalm (Scarlet Bergamot)

Monarda L. sp. – beebalm sp.

Prunella L. sp. – sealfheal sp. [Both American and Eurasian plants are recognized as varieties.]

Lauraceae (laurel)

Sassafras albidum (Nutt.) Nees – Sassafras

Liliaceae (lily)

Hemerocallis fulva (L.) L. – Orange Daylily [I – Asia]

Maianthemum canadense Desf. – Canada Mayflower

Medeola virginiana L. – Indian Cucumber

Streptopus lanceolatus (Aiton) Reveal var. *roseus* (Michx.) Reveal – Rosy Twistedstalk [Possible, but not confirmed. See note in summary below.]

Uvularia perfoliata L. – Perfoliate Bellwort

Lycopodiaceae (club-moss)

Lycopodium digitatum Dill. ex A. Braun – Fan Clubmoss (Crowsfoot)

Lycopodium obscurum L. – Rare Clubmoss (Flat-branched Tree Clubmoss)

Magnoliaceae (magnolia)

Magnolia acuminata (L.) L. – Cucumber Tree

Monotropaceae (Indian pipe)

Monotropa uniflora L. – Indianpipe

Oleaceae (olive)

Fraxinus L. sp. – ash sp.

Orchidaceae (orchid)

Platanthera lacera (Michx.) G. Don – Green Fringed Orchid

Orobanchaceae (broom-rape)

Conopholis americana (L.) Wallr. – American Cancer-root (Squawroot)

Epifagus virginiana (L.) W.P.C. Barton – Beechdrops

Osmundaceae (royal fern)

Osmunda cinnamomea L. – Cinnamon Fern

Osmunda claytoniana L. – Interrupted Fern

Paeoniaceae (peony)

Paeonia L. sp. – peony sp. [I – Europe/Asia]

Phytolaccaceae (pokeweed)

Phytolacca americana L. – American Pokeweed

Pinaceae (pine)

Picea abies (L.) Karst. – Norway Spruce [I – northern Europe]

Pinus strobus L. – Eastern White Pine

Tsuga canadensis (L.) Carrière – Eastern Hemlock

Poaceae (grass)

Leersia Sw. sp. – cutgrass sp.

Microstegium vimineum (Trin.) A. Camus – Nepalese Browntop (Japanese Stiltgrass) [I – Asia]

Polygonaceae (buckwheat)

Polygonum pensylvanicum L. – Pennsylvania Smartweed

Ranunculaceae (buttercup)

Thalictrum L. sp. – meadow-rue sp.

Rosaceae (rose)

Amelanchier Medik. sp. – serviceberry sp.

Crataegus L. spp. – hawthorn spp.

Geum canadense Jacq. – White Avens

Malus Mill. spp. – apple spp.

Prunus serotina Ehrh. – Black Cherry

Rosa multiflora Thunb. – Multiflora Rose [I – Asia]

Rubus L. spp. – blackberry spp.

Spiraea tomentosa L. – Steeplebush

Rubiaceae (madder)

Mitchella repens L. – Partridgeberry

Saxifragaceae (saxifrage)

Tiarella cordifolia L. – Heartleaf Foamflower

Scrophulariaceae (figwort)

Chelone glabra L. – White Turtlehead

Solanaceae (potato)

Solanum carolinense L. – Carolina Horsenettle

Vitaceae (grape)

Parthenocissus quinquefolia (L.) Planch. – Virginia Creeper

Sixteen introduced species were observed on the Sanctuary. Most of these were typical of old homesteads and pastures (Frye, in litt., 28 April 2020).

Rosy Twistedstalk, *Streptopus lanceolatus* var. *roseus*, is a “Threatened S1S2” species in Maryland (Maryland Natural Heritage Program 2019). Threatened species appear “likely, within the foreseeable future, to become endangered” in the state. S1 species are “Critically Imperiled/Highly State Rare” and S2 species are “Imperiled/State Rare.” Rosy Twistedstalk is threatened by habitat loss and is restricted to Garrett County’s Eastern Hemlock and northern hardwood forest slopes and ravines. When not in flower, it can be misidentified with some look-alike Solomon’s Seal plants (Frye, in litt., 28 April 2020). The July BugBlitz plants were not in flower, so for now, the species will be considered “possible but not confirmed.” Further surveys are needed during the May flowering season to confirm this species on the Sanctuary. — *Gene Scarpulla*

SUMMARY

Table 1 summarizes the results of the three-day Carey Run Sanctuary BugBlitz. The 13 participants detected 336 taxa (4 arachnids, 166 insects, 1 fish, 7 amphibians, 54 birds, 7 mammals, 15 fungi, 83 flora). The arachnids included 1 Opiliones, 1 Ixodida, and 2 Araneae. The insects included 1 Ephemeroptera, 3 Odonata, 2 Orthoptera, 1 Phasmida, 1 Plecoptera, 2 Hemiptera, 55 Hymenoptera, 18 Coleoptera, 1 Megaloptera, 72 Lepidoptera, 9 Diptera, and 1 Mecoptera.

Table 1. Taxa observed during the 12–14 July 2019 Carey Run Sanctuary BugBlitz.

	Orders	Families	Genera	Species
Arachnids	Opiliones	1	1	1
	Ixodida	1	1	1
	Araneae	2	2	2
Insects	Ephemeroptera	1	1	1
	Odonata	1	2	3
	Orthoptera	1	2	2
	Phasmida	1	1	1
	Plecoptera	1	1	1
	Hemiptera	2	2	2
	Hymenoptera (bees)	5	10	28
	Hymenoptera (wasps)	5	6	8
	Hymenoptera (ants)	1	11	19
	Coleoptera	11	18	18
	Megaloptera	1	1	1
	Lepidoptera (butterflies)	5	25	29
	Lepidoptera (moths)	10	40	43
	Diptera	7	9	9
	Mecoptera	1	1	1
Fishes		1	1	1
Amphibians		4	5	7
Reptiles		0	0	0
Birds		23	43	54
Mammals		6	6	7
Fungi		14	15	15
Flora		43	78	83
Total		148	282	337

The data are a mere one-weekend snapshot of the biodiversity of Carey Run Sanctuary. There are undoubtedly numerous additional species that remain to be documented on the Sanctuary. More faunal and floral specialists are needed to survey the property throughout the different seasons of the year. We hope that this preliminary list will inspire others to visit and conduct surveys on the property.

ACKNOWLEDGMENTS

I thank Marcia Watson for co-coordinating the Carey Run Sanctuary BugBlitz; all the BugBlitz participants for their time and efforts, both in the field and in the lab; Melissa Hensel (Sanctuary Steward, Carey Run Sanctuary, MOS) for logistical support before, during, and after the BugBlitz; and Dominic Nucifora (Sanctuary Committee Chair, MOS) for facilitating this event and for providing Sanctuary photographs. I also thank Jeffrey W. Shultz (Associate Professor, Department of Entomology, University of Maryland, College Park) for confirming the *Leiobunum aldrichi* identification; Brandon Woo (Contributing Editor, BugGuide and Maryland Biodiversity Project) for identifying *Pseudochorthippus curtipennis* and *Diaperomera femorata*; John F. Carr (Contributing Editor, BugGuide) for identifying *Tipula (Nippotipula)*; Curt W. Harden (Department of Plant & Environmental Sciences, Clemson University) for identifying *Dicaelus teter*; and Christopher T. Frye (State Botanist, Wildlife and Heritage Service, Maryland Department of Natural Resources) for reviewing the plant list, noting and annotating the introduced species, and providing Rosy Twistedstalk information.

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2020 Spring Raptor Migration at Fort Smallwood Park, Anne Arundel County, Maryland

Sue A. Ricciardi

*1132 Ferber Avenue, Arnold, Maryland 21012-1837
susiericc@comcast.net*

Good fortune amidst the challenges of the COVID-19 pandemic made for a surprisingly successful hawkwatch season. In the middle of March, our hawkwatch counters began adapting to the threat of the coronavirus by practicing social distancing at our traditional observation site. By the end of March, we were not allowed to gather in a group of any size, forcing us to retreat individually to scattered locations within the Park. Although that diminished the advantages of a group to better detect and identify raptor species and to minimize multiple counting of the same individuals, we considered ourselves lucky to be able to carry on the count. By May, we were able to be a little less distant from each other, but we were still not allowed to gather at our favored site. Even when statewide restrictions lifted somewhat later on, we found that the narrowness of the path at our site hampered adequate social distancing from other Park patrons, and we did not return there for the remainder of the season. Having to count from other Park locations did give us an opportunity to make site comparisons and we believe our traditional site is still the best location in the Park for the hawkwatch.

The spring 2020 season started off with a whimper in February, went gangbusters in March, limped in April, was average in May, and ended in early June with unexpectedly high seasonal counts. Despite the yo-yoing, the season total of 10,863 migrant raptors was the best since 2015, 12% above the five-year (2015–2019) average and 11% above the ten-year (2010–2019) average. Coverage was about average: 88 days of observation was 6% above the five-year average, while 436 hours of observation was about 2% below average. Counts for the most common raptor species appear in Table 1 along with 5- and 10-year percentage changes.

As the table shows, counts of both vulture species were above average. Indeed, on 20 March, a record 1,905 Turkey Vultures were tallied, annihilating the previous daily record of 1,485 set in 2017. The seasonal total of 7,654 was also a record high tally, surpassing 2013's record count by 300 individuals. For unknown reasons, Osprey numbers declined steeply. Perhaps they just traveled more in the early evening when counters were not present. Mississippi Kite

numbers were stable, with the 20% 5-year decrease likely an artifact of 2019’s unprecedented record of 40 individuals. The 5-year and 10-year percentage changes for Bald Eagle indicate the species’ numbers may be levelling off after years of mostly increases. Counts for Northern Harriers, Cooper’s Hawks, and Broad-winged Hawks continued their worrisome declines. Sharp-shinned Hawk numbers didn’t fall as precipitously, as evidenced by the small 5-year percentage change, and may be stabilizing. Red-shouldered and Red-tailed Hawk numbers rebounded impressively this season yielding above average counts for both multiple-year periods. The reason why is not clear, since the preceding winter was warm, going against the theory that these species stay farther north in warmer temperatures, unhampered by food scarcity due to snow cover. The American Kestrel decline continued, although the last two years yielded counts fairly close in number. Merlin numbers have increased for the past three years, accounting for the large positive 5-year percentage increase.

Table 1. 2020 Common raptor species. The 2020 count and 5-year and 10-year percentage changes.

	Black Vulture	Turkey Vulture	Osprey	Northern Harrier	Sharp-shinned Hawk	Cooper’s Hawk	Bald Eagle	Mississippi Kite	Red-shouldered Hawk	Broad-winged Hawk	Red-tailed Hawk	American Kestrel	Merlin	Season Total
2020 Count	412	7,654	303	50	1021	206	189	12	190	371	222	148	51	10,863
5-Year % Change	+8	+22	-37	-14	-1	-10	0	-20	+25	-23	+34	-10	+18	+12
10-Year % Change	+2	+30	-34	-28	-22	-32	+15	0	+7	-26	+11	-31	+2	+11

February: The season opened on 22 February, although no migrant raptors welcomed us. In fact, five days of coverage in February yielded a scant 11 individuals, even though winds were generally favorable.

March: But March redeemed February with a count almost double the 10-year average. Vultures are a March staple and they accounted for 89% of the month’s 6,416 migrants. The record day for Turkey Vultures cited above (20 March), was a stellar day overall, as 2,140 raptors were counted, the second highest daily total ever. March still had more in store with a tally of 1,089 migrants on 30 March. Again, vultures were numerous, but there were also good showings of Northern Harriers (7), Cooper’s Hawks (36), and Red-shouldered Hawks (55).

April: On a roll, we looked forward to April, usually the month with the highest total count. Not! April's total count was 2,772, only 64% of the 10-year average. Every species except for Bald Eagle was below its 10-year average. The second half of April was especially marked by low counts. We kept wondering if the "pipeline was empty" as there didn't seem to be a clear reason for the deficit. Even so, 22 April was notable with 13 different raptor species counted.

May's total of 1,528 migrant raptors was about average overall, but with individual species variation. Turkey Vulture, Sharp-shinned Hawk, and Merlin numbers were above average, while Black Vulture, Osprey, Bald Eagle, and Cooper's, Broad-winged, and Red-tailed Hawk numbers were below average. The passage of Mississippi Kites was first observed with one individual on 1 May, well in advance of the median arrival date of 12 May. However, the next three were not sighted until the middle of the month. None were seen again until 29 May, when the daily high of five passed by. One more was sighted on 30 May.

June's numbers were more than 3.5 times the 10-year average, owing to double-digit counts of Turkey Vultures on five of the six days of coverage. Two additional Mississippi Kites were observed this month, one each on 1 June and 5 June, making a season total of 12.

Besides counting migrant raptors, we were treated with other raptor observations, such as being able to watch a Peregrine Falcon feast on a Common Grackle, down to the last bite as feathers fluttered downward. Then there was the leucistic Turkey Vulture (Figure 1) which stayed around for two days in early April, impressive with its ghostlike appearance. Local Ospreys, Cooper's Hawks, Red-shouldered Hawks, and Red-tailed Hawks delighted us with their sky-dancing, while also challenging us not to mistakenly include them in the migrant tally.

Fort Smallwood Park is also renowned for its substantial migration of waterbirds and passerines. Unfortunately, ducks and grebes were observed in very small numbers this spring. Perhaps they overwintered farther north. Mysteriously, Blue Jays were also in short supply. Last season we tallied over 27,000; this year the count was under 2,000. However, there were many special sightings of other species: an American Bittern on 20 March, Common Ravens on 30 March and 4 May, a Red-headed Woodpecker on 1 May, a Dickcissel on 3 May, and a singing Alder Flycatcher (Figure 2) and a Blackburnian Warbler (both rarely seen) on 23 May. No new species were added to the Park bird list this season; the total remains at 286.

Finally, the third iteration of the Maryland Breeding Bird Atlas Project got underway on 1 January, eliciting special attention to discerning breeding bird



Figure 1: Leucistic Turkey Vulture, *Cathartes aura*. Top: dorsal view; bottom: ventral view. Fort Smallwood Park, 3 April 2020. Photographed by Dan Walker.



Figure 2. Alder Flycatcher, *Empidonax alnorum*. Fort Smallwood Park, 23 May 2020. Photographed by Cristians Rivas.

species in the Park. When the hawkwatch ended in June, around 40 species had been found to be possible, probable, or confirmed breeders within the Park boundaries, not an insignificant number for a 90-ac (36-ha) park. A smile-generating story involved Northern Rough-winged Swallows. For years each spring they have nested in a hole in the rear wall of the Fort structure. But this year, it seemed that they were not going to nest as usual. Upon investigating, it was found that a bittersweet vine had grown into the entrance. Two maintenance workers kindly removed the vine. Within two days, a Rough-winged was spotted carrying nest material into the hole!

We were lucky to have several regular observers staff the hawkwatch as our routine became restricted. Very much appreciated were the efforts of Sue Ricciardi, Chris Reed, Dan Walker, Hal Wierenga, Lynn Davidson, Hugh Hoffman, Cristians Rivas and John Hoffman. In addition, we were assisted by Bob Rineer, Alan and Sue Young, and Andy Smith. (In general, visitors were discouraged from coming to the hawkwatch once we were forced to leave our site and we thank those who obliged.) We also owe a huge debt of gratitude to the Park staff which accommodated the continuance of the hawkwatch as the pandemic set in.

Truly, it can be said that we don't know what next year will bring. We can only hope to be ready and to be able to welcome you to the spectacle of another raptor migration.

Maryland Christmas Bird Counts (120th CBC) December 2019 through January 2020

John B. (J.B.) Churchill

119 Bar Harbor Road, Pasadena, Maryland 21122; jchurchi@gmail.com

Overall temperatures on most counts were relatively low. The lowest temperature reported was 21 °F (-6 °C) at Chesterville on Maryland’s Eastern Shore (22 December 2019). Ocean City reported the highest temperature (63 °F [17 °C]) on 28 December 2019. Oakland was the only count to report any snow at all having light snow in the afternoon (and heavy rain in the morning). Five counts had heavy rain at some interval (Allegany County, Catoctin Mountain, Oakland, Sugarloaf Mountain, and Washington County). Sugarloaf Mountain was held on 29 December and the other four were held on 14 December 2019. Two other counts had light rain (Point Lookout and Triadelphia Reservoir).

Count names, survey dates, and compilers are presented in Table 1.

Table 1. 2019–2020 Maryland Christmas Bird Counts: count names, survey dates, and compilers (primary compilers listed first).

Christmas Bird Count	Survey Date	Compilers
Allegany County	14 DEC 2019	J.B. Churchill
Annapolis-Gibson Island	05 JAN 2020	Hal Wierenga, Lynn Davidson, Sue Ricciardi
Bowie	01 JAN 2020	Dave Mozurkewich
Catoctin Mountain	14 DEC 2019	Kathy Brown
Chesterville	22 DEC 2019	Maren Gimpel
Crisfield	27 DEC 2019	Paul Bystrak
Denton	14 DEC 2019	Steve Westre
Elkton	15 DEC 2019	Russ Kovach
Jug Bay	15 DEC 2019	Marcia Watson
Loch Raven	15 DEC 2019	Kevin Graff, Pete Webb
Lower Kent County	15 DEC 2019	Nancy Martin, Walter Ellison
Oakland	14 DEC 2019	Connie Skipper
Ocean City	28 DEC 2019	Mark Hoffman
Patuxent River	29 DEC 2019	Andrew Brown
Point Lookout	22 DEC 2019	Bob Boxwell
Port Tobacco	15 DEC 2019	Mike Callahan
Rock Run	28 DEC 2019	Mark Johnson
Saint Michaels	22 DEC 2019	Wayne Bell
Salisbury	15 DEC 2019	Mike Walsh
Seneca	15 DEC 2019	Jim Nelson
Southern Dorchester County	22 DEC 2019	Bruce Peterjohn
Sugarloaf Mountain	29 DEC 2019	Janet Millenson
Triadelphia Reservoir	14 DEC 2019	David Holmes
Washington County	14 DEC 2019	Mark Abdy

The following are some of the highlights from this year's report (bold species names = the most significant sightings across all counts statewide, hc = high count, lc = low count, and us = unusual for the count). The complete list can be found in Tables 2 and 3.

Waterfowl

Washington County had a Snow Goose (4th occurrence). Southern Dorchester County had 2 Greater White-fronted Geese (their 11th occurrence) and Lower Kent County had 1. Sugarloaf Mountain had 1 for count week and Chesterville had a hybrid Greater White-fronted x Canada Goose (cw). Thirteen counts had Cackling Geese. Bowie had 2 Trumpeter Swans (us). Jug Bay had 1 plus a hybrid Trumpeter x Tundra Swan. Crisfield had a high count of 732 Tundra Swans. Patuxent River had 5 **Muscovy Ducks** (exotic). Sugarloaf Mountain had a Blue-winged Teal for count week.

Turkey and Quail: Chesterville had a **Gray Partridge** (presumably a hunting release).

Grebes, Doves, and Hummingbirds: Chesterville had 2 Pied-billed Grebes (considered low). Seneca had a Rufous Hummingbird for count week.

Rails and Cranes: Jug Bay had a Clapper Rail (more unusual on the Western Shore). Southern Dorchester County had 18 (hc). Rock Run had 4 Virginia Rails (hc) and 2 Sora (hc). Bowie had their 1st Sora. Seneca had 3 Sandhill Cranes.

Shorebirds, Alcids, and Gulls: Seneca had a Laughing Gull (2nd occurrence). Salisbury had 7 Lesser Black-backed Gulls (hc).

Loons, Gannets, Pelicans, and Herons: Loch Raven had a Great Cormorant for count week. Seneca had a high count of 16 Double-crested Cormorants and Washington County had 1 (1st occurrence). Southern Dorchester County had 51 American White Pelicans (not an all-time high having had 69 for the 114th CBC) and Ocean City had 36 (hc) where 9 Brown Pelicans was also a count high. Saint Michaels had a Brown Pelican (their 6th). Patuxent River had their 11th, and Point Lookout had 14 (17th occurrence). Elkton had their 3rd ever Great Egret. Jug Bay had their first Black-crowned Night-Heron. Crisfield had a Yellow-crowned Night-Heron (1st occurrence).

Vultures, Hawks, and Eagles: High counts of Black Vulture were at Jug Bay (877), Salisbury (873), Annapolis-Gibson Island (341), Lower Kent County (236), Seneca (547). For Turkey Vultures, the all-time high counts were at Salisbury (1,421), Seneca (576), and Annapolis-Gibson Island (273). Saint Michaels, Southern Dorchester County, and Lower Kent County each had a Golden Eagle. Patuxent River had a high of 7 Northern Harriers. Patuxent River

had 5 Cooper's Hawks (hc) while 1 at Sugarloaf Mountain was a low count. All-time Count highs for Bald Eagle were at Chesterville (144), Bowie (73), Seneca (36), and Catoctin Mountain (12). Chesterville had 22 Red-shouldered Hawks and Washington County had 13 (both hc). The only Rough-legged Hawk reported across all the counts was at Chesterville.

Owls and Kingfisher: Chesterville had a Short-eared Owl (their 1st). Chesterville had 17 Belted Kingfishers (hc).

Woodpeckers: Seneca had a near high count of Red-headed Woodpeckers (117; their all-time high is 134). Chesterville had a high of 180 Red-bellied Woodpeckers and 21 Pileated Woodpeckers (hc). Chesterville had 47 and Saint Michaels had 36 Yellow-bellied Sapsuckers (both hc).

Falcons: Washington County had 2 American Kestrels (1c). Bowie had 5 Merlins (hc) and Denton had a Peregrine Falcon (their 3rd).

Flycatchers, Shrikes, and Corvids: Bowie had 19 and Chesterville had 8 Eastern Phoebes (both hc). Catoctin Mountain had a **White-eyed Vireo** (us; 1st occurrence). A Blue-headed Vireo was a first for Ocean City. On the Oakland and Sugarloaf Mountain counts, 393 and 342 American Crows (respectively) were low counts. Bowie had 1,029 Fish Crows (hc). Common Raven numbers continue to increase on the Western Shore of the Chesapeake Bay. Seneca had 17, Bowie had 14, Triadelphia Reservoir had 9, Annapolis-Gibson Island had 5, and Jug Bay had 2 Common Ravens (all hc).

Chickadees, Nuthatches, and Creeper: At Denton, 32 Horned Larks was an all-time low count. At Bowie, 358 Carolina Chickadees was a relatively low count. Port Tobacco had only 5 Carolina Chickadees (1c). At Bowie, 237 Tufted Titmice was relatively low. Sugarloaf Mountain had 92 and Port Tobacco had 53 Tufted Titmice. These were both all-time low counts. At Chesterville, 27 White-breasted Nuthatches was a low count. At Crisfield, 208 Brown-headed Nuthatches was a count high. Chesterville's 7 and Patuxent River's 1 Brown Creeper were low counts.

Wrens and Kinglets: Denton had a House Wren (us). Crisfield had a count high of Sedge Wrens (28; hc). Jug Bay had 1 (us; their 6th). Crisfield also had a high count of Marsh Wrens (98; hc), Southern Dorchester County had a relatively high count of 44 (all-time was 134 on the 85th CBC) and Jug Bay had 1 (their 23rd). Oakland had 25 and Catoctin Mountain had 176 Carolina Wrens (both hc). Seneca had a **Blue-gray Gnatcatcher** (us). Crisfield had 136, Chesterville had 85, and Denton had 31 Ruby-crowned Kinglets (all hc).

Thrushes, Mimids, and Finches: Oakland had 7 Eastern Bluebirds (hc).

Chesterville had 61 Hermit Thrushes (hc). Annapolis-Gibson Island had 23,958 American Robins and Sugarloaf Mountain had 6,078 (both hc). Crisfield had 43 Gray Catbirds and Chesterville had 10 (both hc). Bowie had a near high of 18 Brown Thrashers (all-time hc is 20). Sugarloaf Mountain had 76 Northern Mockingbirds (lc) and 92 on Annapolis-Gibson-Island was considered a low number. A **Common Redpoll** was reported on the Seneca count. Only Ocean City had Snow Buntings (47).

Sparrows: Annapolis-Gibson Island had 94 Chipping Sparrows, Bowie had 73, Lower Kent County had 39 (all hc). Elkton had a relatively high count of 12 Chipping Sparrows. Crisfield reported a **Clay-colored Sparrow** again (no details available). Chesterville had 233 Field Sparrows (hc). They also had 4 American Tree Sparrows (hc). A single American Tree Sparrow was a low on the Sugarloaf Mountain Count. Chesterville had 62 Fox Sparrows, and Lower Kent County had 47 (both hc). Several counts reported low numbers of “Slate-colored” Dark-eyed Juncos including Sugarloaf Mountain (396), Triadelphia Reservoir (637), Annapolis-Gibson Island (628). Most counts in the region typically see high numbers of the species. Seneca described their count of 502 Dark-eyed Juncos as the lowest since 1961 (highest ever: 5,275 and lowest: 56). Oakland had 14 White-crowned Sparrows (hc) while Sugarloaf Mountain had 27 (lc). Chesterville had a **Golden-crowned Sparrow** (Maryland’s second record) that was at the Washington College grasslands from mid-October 2019 until 28 April 2020 (latest report on eBird). Oakland had 34 White-throated Sparrows (hc). Southern Dorchester County had a Vesper Sparrow (us). Chesterville had 1,214 Song Sparrows and Oakland had 114 (both hc). Bowie had a Lincoln’s Sparrow (us; 7th occurrence). Oakland had 11 Swamp Sparrows (hc). Seneca had 98 Eastern Towhees (hc).

Chat, Blackbirds, Orioles, and Warblers: Point Lookout had a **Yellow-breasted Chat** (us). Ocean City had a Baltimore Oriole and Sugarloaf Mountain had one for count week. A key highlight this year was an amazing variety of warblers! Ocean City and Southern Dorchester County each had a **Black-and-White Warbler** (1st for Ocean City and 2nd for Southern Dorchester County). Seven counts had Orange-crowned Warblers and seven had Common Yellowthroats (missed on the Ocean City Count). Washington County had an **American Redstart** that had been around for a while. An interesting side-note is that they only had 1 Yellow-rumped (“Myrtle”) Warbler on the count. Ocean City had their first **Northern Parula**, and their first **Yellow Warbler**. Ocean City had a **Prairie Warbler** (their 4th) and their 2nd **Black-throated Green Warbler** (us).

Cardinal, Grosbeaks, and Buntings: Chesterville had a **Blue Grosbeak** seen at Mount Harmon (Cecil County). Ocean City had a **Painted Bunting** and Rock Run had a **Dickcissel**.

Table 2. 2019–2020 Maryland Christmas Bird Counts: Inland counts. (bold species name = unusual for the Maryland counts; bold number = high count record; cw = count week; lc = low count)

Species	Oakland	Allegany County	Washington County	Catoctin Mountain	Sugarloaf Mountain	Seneca	Triadelphia Reservoir	Loch Raven	Rock Run	Bowie	Elkton	Chesterville
Snow Goose			1			cw	1	1	486		16	18331
Ross's Goose							1					8
Greater White-fronted Goose					cw							
Brant												
Cackling Goose	1				1		11	1	12	1		11
Canada Goose	1504	677	1041	892	4189	2492	5267	4413	8574	10838	2103	24993
Gr. White-front. x Can. Goose												cw
Mute Swan									1			1
Trumpeter Swan										2		
Tundra Swan	5				cw	cw		40	4		300	455
Trumpeter x Tundra Swan												
Muscovy Duck												
Wood Duck	3	2	2			5			4	13	1	2
Blue-winged Teal					cw							
Northern Shoveler	1					5	1			25		4
Gadwall	54		2			11	31	34	2	48		14
Eurasian Wigeon						1						
American Wigeon	4					57	2	250	3	4		1
Mallard	565	153	431	46	181	351	528	66	442	621	136	1232
Mallard (Domestic type)												
American Black Duck	59	20	2		74	55	100	10	34	24	3	129
Am. Black Duck x Mallard		1			4							
Am. Black Duck/Mallard sp.												
Northern Pintail	1				1		3			1		11
Green-winged Teal	9		2		4	4	61	cw		8		14
Canvasback	cw				1				69		25	
Redhead	1				cw	5	2	12		1	40	
Ring-necked Duck	12				13	423	211	497	70	234	300	123
Greater Scaup									135		350	
Lesser Scaup	2					5		2	73	3		28
scaup sp.									114			
Common Eider												
Surf Scoter												
White-winged Scoter												
Black Scoter												
scoter sp.												
Long-tailed Duck												
Bufflehead	143		1		35	253	59	107	179	23	80	30
Common Goldeneye				1	cw	11		1	13	2	5	17
Bufflehead x Com. Goldeneye												
Hooded Merganser	226	27	3	2	42	64	94	162	83	217	17	235
Common Merganser	90	15	77		85	42	2300	207	164	3	21	542

Species	Oakland	Allegany County	Washington County	Catoctin Mountain	Sugarloaf Mountain	Seneca	Triadelphia Reservoir	Loch Raven	Rock Run	Bowie	Elkton	Chesterville
Red-breasted Merganser	3				cw		2	2	4			7
Ruddy Duck	36				6	3	4	1	553	126	800	1
duck sp.						3						
Northern Bobwhite												42
Wild Turkey	150	31	47	25	76	24	48	4	12	29		15
Ruffed Grouse	1											
Gray Partridge												1
Ring-necked Pheasant												
Pied-billed Grebe	6				3	7		18	9	5		2
Horned Grebe	1							10	1			
Rock Pigeon	68	96	440	223	219	374	110	173	107	390	38	164
Mourning Dove	81	39	393	435	460	274	640	291	212	675	29	239
Rufous Hummingbird					cw							
Clapper Rail												
King Rail												
Virginia Rail									4			
<i>Rallus</i> sp.												
Sora									2	1		
American Coot	3							750	11	10		
Sandhill Crane						3						
American Oystercatcher												
Black-bellied Plover												
Killdeer	cw	1			1	2	1	1		13		4
Semipalmated Plover												
Ruddy Turnstone												
Sanderling												
Dunlin												
Purple Sandpiper												
Least Sandpiper												
Western Sandpiper												
American Woodcock									4	3		
Wilson's Snipe					3		18		1			
Lesser Yellowlegs												
Willet												
Greater Yellowlegs												
Razorbill												
Bonaparte's Gull												
Black-headed Gull												
Laughing Gull						1						
Ring-billed Gull	cw				120	133	87	207	2278	279	5492	273
Herring Gull						15		5	98	23	572	17
Lesser Black-backed Gull									1			
Great Black-backed Gull									91		97	
gull sp.						95	2			37		
Forster's Tern												
Red-throated Loon												
Common Loon	2				cw							2
Northern Gannet												

Species	Oakland	Allegany County	Washington County	Catoctin Mountain	Sugarloaf Mountain	Seneca	Triadelphia Reservoir	Loch Raven	Rock Run	Bowie	Elkton	Chesterville
Great Cormorant								cw				
Double-crested Cormorant			1			16	1		31	8	7	11
cormorant sp.												
American White Pelican												
Brown Pelican												
American Bittern												
Great Blue Heron	5	3		7	16	41	8	12	106	24	19	58
Great Egret											1	
Tricolored Heron												
Cattle Egret												
Black-crowned Night-Heron									1			
Yellow-crowned Night-Heron												
Black Vulture		9	20	42	104	547	103	232	263	552	62	272
Turkey Vulture		2	16	92	40	576	83	316	184	302	171	359
Osprey												
Golden Eagle												
Northern Harrier	1			1	3	3	4	1	1		3	9
Sharp-shinned Hawk	1	1	3	2	cw	8	3	9	3	9	2	8
Cooper's Hawk	1	1	2	3	1	11	8	5	6	8	2	9
Accipiter sp.						3				1		
Bald Eagle	4	9	1	12	7	36	33	60	97	73	42	144
Red-shouldered Hawk	1	1	13	11	64	79	38	35	31	47	7	22
Red-tailed Hawk	12	5	18	42	37	52	20	36	23	66	13	47
Rough-legged Hawk												1
Barn Owl												
Eastern Screech-Owl	1	1	2	1	2	2	1	3	13	3		33
Great Horned Owl					3	1	3	cw	15	2		30
Barred Owl	2		1	1	3	13	6		6	15		15
Short-eared Owl												1
Belted Kingfisher	7	4	9	11	20	32	9	15	19	35	7	17
Red-headed Woodpecker				3	10	117		2		10		
Red-bellied Woodpecker	15	26	84	105	202	430	208	135	115	360	35	180
Yellow-bellied Sapsucker		3	9	18	77	96	20	24	29	47	10	47
Downy Woodpecker	43	12	47	65	167	274	124	114	79	171	13	72
Hairy Woodpecker	9	5	5	11	25	65	19	24		50	7	17
Northern Flicker		18	19	65	131	214	98	79		185	18	112
Pileated Woodpecker	2	11	21	12	69	104	47	33	34	55	5	21
woodpecker sp.												
American Kestrel	2	5	2 (lc)	13	12	2	3	3	4	12	1	7
Merlin						2		4	1	5	1	
Peregrine Falcon					1	2	1			1	1	
Eastern Phoebe		1		1	3	10	2	7	2	19	2	8
White-eyed Vireo				1								
Blue-headed Vireo												
Blue Jay	59	44	84	184	254	544	452	257	211	460	83	216
American Crow	393 (lc)	33	109	87	342	2785	797	610	222	2327	301	138
Fish Crow				2	174	1282	576	170	38	1029	154	4
crow sp.				2	646	3601	1997	18	45	9066	26	

Species	Oakland	Allegany County	Washington County	Catoctin Mountain	Sugarloaf Mountain	Seneca	Triadelphia Reservoir	Loch Raven	Rock Run	Bowie	Elkton	Chesterville
Common Raven	18	10	4	17	9	17	9	3		14		
Horned Lark	29			42	19	113	8	3	1			273
Tree Swallow												
Carolina Chickadee			123	102	185	442	183	243	218	358	68	226
Black-capped Chickadee	328	43										
Tufted Titmouse	63	9	50	50	92	229	105	132	131	237	28	162
Red-breasted Nuthatch	2				cw							
White-breasted Nuthatch	51	10	24	49	126	252	118	165	71	151	15	27
Brown-headed Nuthatch												
Brown Creeper	7	3	3	21	8	43	2	9	9	21	5	7
House Wren						1			1			
Winter Wren		2	2	3	3	37	14	12	25	54	9	22
Sedge Wren												
Marsh Wren												
Carolina Wren	25	48	82	176	322	589	276	228	247	503	79	254
Blue-gray Gnatcatcher						1			1			
Golden-crowned Kinglet	19	6	8	17	26	85	15	16	61	60	11	58
Ruby-crowned Kinglet	1	2	1	4	17	72	3	10	25	51	9	85
kinglet sp.					1							
Eastern Bluebird	7	21	85	97	232	439	240	241	307	329	64	222
Hermit Thrush		2		1	13	35	11	25	32	88	6	61
American Robin	2	5	887	200	6078	1638	4562	302	447	5570	134	449
Gray Catbird					1	2	1	6	7	12	2	10
Brown Thrasher						1	1		6	18	1	9
Northern Mockingbird	1	7	42	89	76 (lc)	96	102	74	76	144	26	120
European Starling	193	136	6581	3948	2221	1425	2174	3596	2041	8994	1068	2218
Cedar Waxwing	1	6	87	154	318	997	609	154	63	52	36	78
House Sparrow	162	25	87	210	149	259	187	240	157	286	191	348
American Pipit				40	30	1				18		57
House Finch	41		88	91	83	299	138	232	75	241	40	232
Purple Finch					15	10						
Common Redpoll						1						
Pine Siskin												
American Goldfinch	29	16	76	49	202	403	227	239	108	213	47	132
Snow Bunting												
Chipping Sparrow	1				7	25	22	14	4	73	12	41
Clay-colored Sparrow												
Field Sparrow	4	7		12	25	34	69	38	25	118	8	233
Fox Sparrow				3	3	10	18	10	2	46	1	62
American Tree Sparrow	18			2	1 (lc)	2		1	2			4
Dark-eyed Junco	175	108	210	423	396	502	637	452	276	1018	456	768
White-crowned Sparrow	14		3	35	27 (lc)	10	8	1		9		76
Golden-crowned Sparrow												1
White-throated Sparrow	34	158	123	730	1092	1265	1470	1177	898	2747	264	1741
Vesper Sparrow												
Seaside Sparrow												
Nelson's Sparrow												
Saltmarsh Sparrow												

Species	Oakland	Allegany County	Washington County	Catoctin Mountain	Sugarloaf Mountain	Seneca	Triadelphia Reservoir	Loch Raven	Rock Run	Bowie	Elkton	Chesterville
Savannah Sparrow				2		3	31		44	34	1	165
Savannah Sparrow (Ipswich)												
Song Sparrow	114	148	40	216	307	506	552	347	488	914	148	1214
Lincoln's Sparrow										1		
Swamp Sparrow	11	3		3	41	52	38	25	77	125	5	141
Eastern Towhee		1		6	29	98	65	74	102	248	16	121
sparrow sp.				12								
Yellow-breasted Chat												
Eastern Meadowlark		6			5	7		1		15	6	
Baltimore Oriole					cw							
Red-winged Blackbird		15	20	248	84	847	563	8489	4503	3436	3394	11555
Brown-headed Cowbird				3	20	11	108	27	20	318	8	25
Rusty Blackbird				14		148			7	61	1	2
Common Grackle					45	27	566	37059	16152	83833	297	19174
Common Grackle (Purple)												
Boat-tailed Grackle												
blackbird sp.					42	166			2700	604		10150
Black-and-white Warbler												
Orange-crowned Warbler									2			2
Common Yellowthroat									2	1		
American Redstart			1									
Northern Parula												
Yellow Warbler												
Palm Warbler (unspecified)												8
Palm Warbler (Western)												7
Palm Warbler (Yellow)									1			10
Pine Warbler						1		1	1	6		2
Yellow-rumped Warbler					45	170		1	32		13	
Yellow-rump. Warbler (Myrtle)	29	1	13				11			43		100
Prairie Warbler												
Black-throat. Green Warbler												
Northern Cardinal	78	103	243	268	551	651	544	357	314	708	94	519
Blue Grosbeak												1
Painted Bunting												
Dickcissel									1			

Table 3. 2019–2020 Maryland Christmas Bird Counts: Tidewater counts.
(bold species name = unusual for the Maryland counts; bold number = high count record; cw = count week; lc = low count)

Species	Annapolis-Gibson Island	Patuxent River	Jug Bay	Point Lookout	Lower Kent County	Denton	Port Tobacco	Saint Michaels	Southern Dorchester County	Crisfield	Salisbury	Ocean City
Snow Goose				1	10106	650		2	3000	1	28	7279
Ross's Goose					2							1
Greater White-fronted Goose					1				2			
Brant												1074
Cackling Goose	3		2		34			10	3			4
Canada Goose	4717	3466	8358	2736	44492	2697	3558	49989	11041	1237	5517	12482
Gr. Wh.-front. x Can. Goose												
Mute Swan												
Trumpeter Swan				1								
Tundra Swan	311	63	43	9	477	208	30	613	373	732		436
Trumpeter x Tundra Swan			1									
Muscovy Duck		5										
Wood Duck	6	1	13		7			2	2	13		23
Blue-winged Teal			cw									
Northern Shoveler	2		3		139				38	1		78
Gadwall	37	14	126		427	3		17	16	17		220
Eurasian Wigeon												
American Wigeon	1		5		34			28	10			85
Mallard	896	173	580	54	2697	218	21	413	2432	94	124	1680
Mallard (Domestic type)		2										
American Black Duck	24	15	533		585	38	2	87	398	278	91	882
Am. Black Duck x Mallard			1		1							1
Am. Black Duck/Mallard sp.						1						146
Northern Pintail		2	3		152			92	517	3		49
Green-winged Teal	2		7		71				73	108	13	52
Canvasback	4443				1441			1038	1	13	3	94
Redhead	1		1		153			43	1190	15		
Ring-necked Duck	17		99		153	20		1	6	8	75	278
Greater Scaup	1890		248		8224			105			1	2
Lesser Scaup	512	28	2	5	4700	9		440	15			41
scaup sp.	2202				2040					14		
Common Eider												13
Surf Scoter	205	11	597	45	4			669	6	287		584
White-winged Scoter	1			1				8		1		3
Black Scoter	8	12	5	500	2			767	1	29		226
scoter sp.	40		50					175		50		652
Long-tailed Duck	304	261	63	35	119			246	2	18		21
Bufflehead	1627	913	760	70	764	41		1972	304	928	55	2373
Common Goldeneye	34	31	9	52	92			249	83	19	1	6
Bufflehead x C. Goldeneye		1										
Hooded Merganser	109	33	21	30	43	19		34	53	82	7	443

Species	Annapolis-Gibson Island	Patuxent River	Jug Bay	Point Lookout	Lower Kent County	Denton	Port Tobacco	Saint Michaels	Southern Dorchester County	Crisfield	Salisbury	Ocean City
Common Merganser		1	125						343		5	
Red-breasted Merganser	9	11		34	20			6	4	4	11	187
Ruddy Duck	3455	430	1313	126	2648	35		4768	80	78	45	125
duck sp.												
Northern Bobwhite											4	
Wild Turkey	12		4	1	61	49		69	7	26	51	9
Ruffed Grouse												
Gray Partridge												
Ring-necked Pheasant					1							
Pied-billed Grebe	3	1	3	2	2	1		1	1	1	4	17
Horned Grebe	18	24	3	11	2			47	3	1		295
Rock Pigeon	7	45	18		59	211		14	5	128	128	239
Mourning Dove	268	128	163	61	236	493	72	224	112	248	148	311
Rufous Hummingbird												
Clapper Rail				1					18	95		6
King Rail									2	2		
Virginia Rail	2		5	1	11				20	70	13	11
<i>Rallus</i> sp.									6	65		
Sora										7	1	
American Coot	41	4	1		141						2	11
Sandhill Crane				1								
American Oystercatcher												23
Black-bellied Plover									1	2		27
Killdeer			54		1	31	1	38	29	6		25
Semipalmated Plover												1
Ruddy Turnstone												7
Sanderling												109
Dunlin									150	464		2088
Purple Sandpiper												5
Least Sandpiper								4				
Western Sandpiper												2
American Woodcock		1	1	2	9	cw			2		1	16
Wilson's Snipe		1	8			6			2	18		14
Lesser Yellowlegs										26		
Willet										1		2
Greater Yellowlegs									35	98	10	39
Razorbill												6
Bonaparte's Gull	1			35	7							
Black-headed Gull				1								
Laughing Gull			1									1
Ring-billed Gull	1563	487	2232	278	4502	233	838	404	737	4446	4275	3564
Herring Gull	596	119	940	75	382	300	68	921	406	1383	3057	1105
Lesser Black-backed Gull	1		2		1						7	5
Great Black-backed Gull	197	118	55	22	74			35	11	14	197	276
gull sp.							86		370		306	17
Forster's Tern				1								cw
Red-throated Loon				1	1				3	1	1	311

Species	Annapolis-Gibson Island	Patuxent River	Jug Bay	Point Lookout	Lower Kent County	Denton	Port Tobacco	Saint Michaels	Southern Dorchester County	Crisfield	Salisbury	Ocean City
Common Loon	3	41	7	10	12			51	10	11	1	128
Northern Gannet												458
Great Cormorant	1											1
Double-crested Cormorant	3185	92	78	55	601	3	44	8	11	1	36	42
cormorant sp.	10							4				
American White Pelican									51			36
Brown Pelican		1		14				1				9
American Bittern										3		1
Great Blue Heron	82	29	32	6	54	22	15	47	82	140	26	105
Great Egret								2		3		
Tricolored Heron										1		
Cattle Egret				1								
Black-crowned Night-Heron			1							24		13
Yellow-crowned Night-Heron										1		
Black Vulture	341	106	877	17	236	130	78	114	52	130	873	195
Turkey Vulture	273	120	219	35	843	358	135	299	225	575	1421	788
Osprey												1
Golden Eagle					1			1	1			
Northern Harrier		7	15	1	9	3	1	4	33	56	3	9
Sharp-shinned Hawk	4	1	6	1	13	1	1	7	2	3	3	15
Cooper's Hawk	8	5	9		6	7	2	7	2	6	4	10
Accipiter sp.	1									1		1
Bald Eagle	54	31	94	15	153	41	73	83	176	129	79	119
Red-shouldered Hawk	14	18	34	4	18	12	7	10	11	15	12	11
Red-tailed Hawk	41	8	37	3	35	21	8	30	14	16	21	27
Rough-legged Hawk												
Barn Owl			2		1							1
Eastern Screech-Owl	7	15	3	2	31	8	1	37	20	42	16	27
Great Horned Owl	2	9	5	4	15	6	1	32	33	40	3	13
Barred Owl	3	5	6		4	5	3	1	5	2	2	2
Short-eared Owl		1							8	1		
Belted Kingfisher	20	12	17	4	19	10	9	24	34	33	19	38
Red-headed Woodpecker		3	18		1		27	2				
Red-bellied Woodpecker	181	37	196	6	151	57	84	58	42	73	36	88
Yellow-bellied Sapsucker	24	20	35	3	19	10	10	36	7	20	14	9
Downy Woodpecker	151	33	92	5	63	34	22	59	88	101	26	107
Hairy Woodpecker	24	8	18	1	23	21	3	7	16	19	8	30
Northern Flicker	56	36	114	3	110	60	168	88	63	97	37	156
Pileated Woodpecker	35	7	43	3	18	21	13	22	17	34	12	39
woodpecker sp.				1								
American Kestrel		10	7	2	6	7	6	cw	5	10	8	16
Merlin	1				2			3	1	1	2	6
Peregrine Falcon	4	1			1	1	2		2			3
Eastern Phoebe	4	3	7	2	4	5	4	1	6	14	8	39
White-eyed Vireo												
Blue-headed Vireo												1
Blue Jay	246	97	178	15	253	140	226	279	41	140	54	268

Species	Annapolis-Gibson Island	Patuxent River	Jug Bay	Point Lookout	Lower Kent County	Denton	Port Tobacco	Saint Michaels	Southern Dorchester County	Crisfield	Salisbury	Ocean City
American Crow	338	284	629	106	153	117	180	301	199	413	707	619
Fish Crow	55	9	217		1	11	4		1983	399	111	289
crow sp.	52		123		22		4	45	1070	173		97
Common Raven	5		2				1					
Horned Lark		7			41	32 (lc)	4		1	2		53
Tree Swallow									3	272		
Carolina Chickadee	332	129	204	14	158	120	5 (lc)	173	177	297	114	448
Black-capped Chickadee												
Tufted Titmouse	202	81	183	12	97	78	53	96	43	85	69	211
Red-breasted Nuthatch												1
White-breasted Nuthatch	118	22	78	2	13	25	73	7	4	3	2	5
Brown-headed Nuthatch		14		15	7			29	162	208	9	69
Brown Creeper	4	1	5		8	5	2	6	9	7	9	7
House Wren	1				2	1				8	1	12
Winter Wren	30	5	30		18	17		10	15	30	20	58
Sedge Wren			1		1					28		6
Marsh Wren	1		1		8				44	98		2
Carolina Wren	330	177	272	15	236	104	68	184	99	235	78	445
Blue-gray Gnatcatcher												
Golden-crowned Kinglet	5	13	20	1	31	19	6	20	50	57	69	55
Ruby-crowned Kinglet	34	25	58	3	47	31	31	39	36	136	38	50
kinglet sp.												
Eastern Bluebird	248	160	250	25	188	144	92	419	139	307	139	314
Hermit Thrush	43	13	70	4	36	25	7	23	39	76	35	54
American Robin	23958	5115	1331	87	161	764	368	2861	613	1678	432	31621
Gray Catbird	6	2	12	2	6	2	1	5	15	43	10	70
Brown Thrasher	18	5	22	2	23	9	10	20	10	15	7	36
Northern Mockingbird	92	38	58	15	99	64	24	135	30	62	44	126
European Starling	6386	1433	3349	35	3339	1301	541	2160	862	1864	4719	7063
Cedar Waxwing	1125	673	371	24	255	98	30	207	6	13	4	107
House Sparrow	253	42	78	2	28	164	2	50	9	85	4	186
American Pipit					71	8						1
House Finch	257	184	93	1	196	51	7	213	3	26	32	152
Purple Finch		3		2		8			1			
Common Redpoll												
Pine Siskin			4						15			
American Goldfinch	150	104	118	29	107	46	106	74	68	106	86	190
Snow Bunting												47
Chipping Sparrow	94	11	21	16	39	83	16	9	8	231	72	538
Clay-colored Sparrow										1		
Field Sparrow	32	13	47		91	32	16	6	9	26	19	72
Fox Sparrow	8	3	6	2	47	3	2	18	17	59	13	55
American Tree Sparrow					1		1					
Dark-eyed Junco	628	242	429	56	528	537		442	96	116	401	383
White-crowned Sparrow		5		1	14	1		2				
Golden-crowned Sparrow												
White-throated Sparrow	1260	363	1602	34	1842	609	950	818	89	583	307	1204

Species	Annapolis-Gibson Island	Patuxent River	Jug Bay	Point Lookout	Lower Kent County	Denton	Port Tobacco	Saint Michaels	Southern Dorchester County	Crisfield	Salisbury	Ocean City
Vesper Sparrow									1			
Seaside Sparrow										4		
Nelson's Sparrow										1		7
Saltmarsh Sparrow										11		1
Savannah Sparrow		30	13	3	68	18	38	8	59	72	27	90
Savannah Sparrow (Ipswich)							38					17
Song Sparrow	266	164	370	11	623	157	313	256	239	447	161	749
Lincoln's Sparrow										1		2
Swamp Sparrow	35	9	95	18	215	15	20	54	244	573	34	252
Eastern Towhee	111	27	127	3	161	14	52	44	18	34	25	74
sparrow sp.												
Yellow-breasted Chat				1								
Eastern Meadowlark		41	24	30	31	50	31	5	194	148	43	189
Baltimore Oriole												1
Red-winged Blackbird	2169	337	12130	509	4376	2492		1574	16904	10227	1101	7047
Brown-headed Cowbird	3	21	45	75	14	580		42	13	3	75	137
Rusty Blackbird	1		10			4			1	10		
Common Grackle	5574	3972	72136	56	2597	408		166	349		124	2187
Common Grackle (Purple)							1679			156		
Boat-tailed Grackle									15	25		
blackbird sp.	791	60	1652									5240
Black-and-white Warbler									1			1
Orange-crowned Warbler			1		1				1		1	3
Common Yellowthroat			1		2				7	3	1	
American Redstart												
Northern Parula												1
Yellow Warbler												1
Palm Warbler (unspecified)			1		6	6		1	11	24	8	1
Palm Warbler (Western)												12
Palm Warbler (Yellow)						6						17
Pine Warbler			1	2	4	1		5	16	15	4	19
Yellow-rumped Warbler	75		75					293			51	
Yell.-rumped Warbler (Myrtle)		199		28	82	17			294	1150		2234
Prairie Warbler												1
Black-throat. Green Warbler												1
Northern Cardinal	600	238	391	67	542	257	99	236	84	185	151	396
Blue Grosbeak												
Painted Bunting												1
Dickcissel												

2020 Maryland Mid-winter Bird Count

Erika L. Norton

1100 Higgins Place, Apt. 531, Rockville, Maryland 20852
errnorton@gmail.com

The annual Maryland Mid-winter Bird Count was held on multiple days between 4 January and 2 February 2020. Results were submitted for Baltimore, Carroll, Frederick, Howard, and Kent Counties, and additionally for the Fred J. Archibald and Audrey Carroll Audubon Sanctuaries and the Chesapeake and Ohio (C&O) Canal (Table 1).

Table 1. 2020 Maryland Mid-winter Bird Count: Participating counties, codes, dates, and compilers.

County	Code	Date	Compiler
Chesapeake & Ohio Canal	C&O	25 January 2020– 02 February 2020	James Speicher
Fred J. Archibald Audubon Sanctuary	FAAS	11 January 2020	David Smith
Audrey Carroll Audubon Sanctuary	ACAS	04 January 2020	David Smith
Frederick	FR	25 January 2020	David Smith
Carroll	CA	18 January 2020	Bill Ellis
Howard	HO	01 February 2020	Joe Hanfman
Baltimore	BA	19 January 2020	Kevin Graff
Kent	KE	02 February 2020	Walter Ellison

The C&O Canal locations included every county bordering the park’s towpath. Overall C&O towpath coverage was 88.6% with county coverage as follows: District of Columbia (100%), Montgomery (100%), Frederick (75%), Washington (78%), and Allegany (100%). No stationary counts were submitted in 2020. Data were submitted for each of the nine count days. Additional C&O count compilation information can be found on eBird at: <https://ebird.org/view/checklist/S66189734>.

The 2020 Maryland Mid-winter bird count was made possible by the hard work of 278 participants in 202 parties (Table 2). They observed 100,735 individual birds and 123 unique species. By car, 1734.6 mi (2791.6 km) were covered over 158.21 hours. By foot, 485.36 hours were spent covering 434.94 mi (700 km). Owling occurred in Frederick, Carroll, and Howard Counties and the Audrey

Carroll Audubon Sanctuary over 6.62 hours covering 14.5 mi (23.3 km). In Carroll, Howard, and Baltimore Counties, 39.5 hours of feeder watching were completed. In Howard County, 3.3 hours of stationary observation were completed as well.

Table 2. 2020 Maryland Mid-winter Bird Count: Summary.

	C&O	FAAS	ACAS	FR	CA	HO	BA	KE
Total Species	83	40	40	80	71	89	100	80
Total Birds	13,625	798	408	8,717	7,259	28,169	16,129	25,630
Start Time	N/A	0621	0615			0537	0610	0700
Stop Time	N/A	1257	1217			2125	1719	1800
Parties	58	1	1	22	12	54	53	1
Number of Observers	67	7	9	38	21	66	68	2
Hours Driving	0			73.14	26	51.9	1.17	6
Miles Driving	0			886	286	458.6	75	29
Hours Walking	172.4	6.6	6	39.36	36	148.1	71.9	5
Miles Walking	163	4.78	3	33.26	28	134.7	65.2	3
Hours Owling	0		0.49	0.33	1	4.8		
Miles Owling	0			0	1.4	13.1		
Feeder Hours	0				4.3	9.2	26	
Stationary Hours	0					3.3		

Weather conditions on count day(s) were reported for all locations other than Howard County. There was a wide range of temperatures on count days this year. The lowest temperature was reported from one of the C&O Canal count days at 20 °F (-7 °C). Count day in Carroll County was also on the colder side, with a low temperature of 27 °F (-3 °C). In contrast, mild temperatures occurred on the count days for both Audubon sanctuaries, bottoming out in the low 50s °F (~11 °C) with a high of 65 °F (18 °C). Overall, very little ice cover was noted with the exception of ponds in Carroll County. Across all count sites, wind speeds ranged from 0 mph (0 kph) to 20 mph (32 kph). Cloud cover ranged from partly cloudy to completely overcast with a few sites reporting some light precipitation including some snow mixed with freezing rain in Carroll County.

Not surprisingly, the most common species in the 2020 Mid-winter count was Canada Goose, of which 26,871 individuals were observed (Table 3). A single Greater White-Fronted Goose was observed in Baltimore County, and a single Cackling Goose was observed in Frederick County. An individual Trumpeter Swan was also observed in Frederick County. Significantly more Green-winged Teal individuals were noted in this year’s count as compared to last year, particularly in Howard and Kent counties. However, other waterfowl species were observed in lower numbers such as Canvasbacks and Common Goldeneyes.

Rock Pigeons and Mourning Doves were both observed in large numbers. Wilson’s Snipes were seen in both Howard and Baltimore Counties. Four species of gulls were observed in this year’s count, with all four of those species represented in Baltimore County.

Both Red-shouldered and Red-tailed Hawks were observed in all count locations. Overall, Red-shouldered Hawks (218 individuals), were slightly more common than Red-tailed Hawks (207 individuals). Three species of owls were observed in this year’s count, with Barred Owls being the most common (20 individuals).

Interestingly, two common winter species for Maryland, White-throated Sparrow and Dark-eyed Junco, appeared in significantly less numbers specifically in Frederick, Howard, and Kent Counties as compared to last year. This is possibly due to relatively mild temperatures of this winter and those counts occurring in late January/early February.

There were multiple notable species for winter in Maryland observed in this year’s count. Two Palm Warblers were observed in Baltimore County. Lincoln’s Sparrows were observed in both Howard and Kent Counties Also observed in Howard County was a Baltimore Oriole, a Rufous Hummingbird, and a White-eyed vireo.

Table 3. 2020 Maryland Mid-winter Bird Count: Observed species.

Species	C&O	FAAS	ACAS	FR	CA	HO	BA	KE
Snow Goose		2		1			1	1080
Ross’s Goose								
Greater White-fronted Goose							1	
Cackling Goose				1				
Canada Goose	888	27	19	9296	1816	6231	2864	5730
Mute Swan				1			5	
Trumpeter Swan				1				
Tundra Swan				26			6	116
Wood Duck	1							1
Northern Shoveler	1					4		85
Gadwall	10			42	18	30	102	21
American Wigeon				6	26	5	44	7
Mallard	454			315	132	319	357	281
Mallard (domestic type)	33							
Mallard x American Black Duck	1							
American Black Duck	74			28	11	95	56	51
Northern Pintail	2			1		23		75
Green-winged Teal				1		38	3	115
Canvasback				2				
Redhead	5						16	75
Ring-necked Duck	23			13	26	257	35	193

Species	C&O	FAAS	ACAS	FR	CA	HO	BA	KE
Greater Scaup							2	114
Lesser Scaup							23	75
scaup sp.							24	510
Long-tailed duck						2	10	1
Bufflehead	151			2	34	21	156	89
Common Goldeneye	4						25	44
Hooded Merganser	18			7	15	63	146	
Common Merganser	167			75	40	58	613	12
Red-breasted Merganser						1	1	16
Ruddy Duck					4	3	907	95
duck sp.	25							
Wild Turkey	21	feces/ feather	feces/ feather	20	20	22		
Ring-necked Pheasant								
Pied-billed Grebe	3						46	1
Horned Grebe	2						2	
grebe sp.								
Rock Pigeon	220	2		710	153	102	197	8
Mourning Dove	172	30	7	750	144	364	345	34
Rufous Hummingbird						1		
Virginia Rail								
American Coot							3	
Killdeer	1			12		1		
American Woodcock								
Wilson's Snipe						1	2	
Bonaparte's Gull							4	
Ring-billed Gull	937			1	26	172	1218	103
Herring Gull	2						65	29
Great Black-backed Gull							13	15
gull sp.	7					91	105	
Common Loon							1	
Great Cormorant								
Double-crested Cormorant	14						53	8
Great Blue Heron	36		1	22	4	33	29	11
Black Vulture	90	8		285	31	194	73	48
Turkey Vulture	124	11	1	311	158	206	151	183
Northern Harrier	1			1		2	1	1
Sharp-shinned Hawk	1			1	2	3	2	1
Cooper's Hawk	8			15	3	4	12	
Sharp-shinned/Coopers Hawk	2							
Accipiter sp.				2		1	1	
Bald Eagle	42			19	5	37	27	32
Red-shouldered Hawk	41	1	2	56	11	90	14	3
Red-tailed Hawk	41	3	1	87	19	24	25	7
Buteo sp.	2			1		2		
hawk sp.	4							
Eastern Screech-Owl					3	2		
Great Horned Owl		1	1	3		10		
Barred Owl	6			1	1	6	1	5
Belted Kingfisher	47		1	28	5	15	11	1
Red-headed Woodpecker	43		6	12	2		1	
Red-bellied Woodpecker	490	20	9	235	66	290	89	18
Yellow-bellied Sapsucker	103	4	2	28	6	15	7	7

Species	C&O	FAAS	ACAS	FR	CA	HO	BA	KE
Downy Woodpecker	320	18	12	121	56	216	111	11
Hairy Woodpecker	68	5	2	21	23	39	21	6
Downy/Hairy Woodpecker	14							
Northern Flicker	116	7	8	86	24	98	29	29
Pileated Woodpecker	204	3	4	43	15	69	18	4
woodpecker sp.	12							
American Kestrel	1			35	4	5	1	2
Merlin				3		2	4	
Peregrine Falcon	1						2	
Least Flycatcher	1							
Eastern Phoebe	24				1	6	3	
White-eyed Vireo						1		
Blue Jay	268	15	10	360	55	673	139	39
American Crow	511	12	6	456	306	992	486	5
Fish Crow	159	3	4	32	93	330	95	
crow sp.	42			78		261	275	
Common Raven	72	1		12	7	12	5	
Horned Lark				22	2	6	11	5
Tree Swallow	3							
Carolina Chickadee	397	14	5	153	31	219	189	12
Black-capped Chickadee	65							
Carolina/Black-capped Chickadee	2							
Tufted Titmouse	252	9	2	108	26	240	116	18
Red-breasted Nuthatch	2						1	
White-breasted Nuthatch	308	15	6	103	47	180	105	
Brown Creeper	49	3		10	3	1	4	1
Winter Wren	48		1	2	7	11	7	2
Carolina Wren	731	19	23	300	75	487	137	56
Golden-crowned Kinglet	69	3	2	16	9	22	7	2
Ruby-crowned Kinglet	32	1		7	3	6	8	5
Eastern Bluebird	412	21	9	173	108	278	61	8
Hermit Thrush	20			3	4	12	11	1
American Robin	626	122	3	850	218	655	540	36
Gray Catbird	1				1	4	3	1
Brown Thrasher						3	1	1
Northern Mockingbird	26	5	5	119	27	107	47	14
European Starling	380	167	15	5921	955	1753	588	153
Cedar Waxwing	84	24	62	89		119	43	
House Sparrow	40			356	177	317	255	68
American Pipit						15		
House Finch	25	7	1	180	30	229	157	14
Purple Finch							1	
Pine Siskin				3				
American Goldfinch	132	9	3	146	69	167	222	3
Chipping Sparrow	2				7	47	29	3
Field Sparrow	15	8	2	41	10	97	12	12
Fox Sparrow	1				10	24	1	3
American Tree Sparrow	2			1	2		3	
Dark-eyed Junco	505	26	7	437	615	669	320	90
White-crowned Sparrow				18	11	20		
White-throated Sparrow	993	71	62	659	611	1713	671	146
Savannah Sparrow				3		27	3	12
Song Sparrow	398	43	36	395	215	613	166	57

Species	C&O	FAAS	ACAS	FR	CA	HO	BA	KE
Lincoln’s Sparrow						1		1
Swamp Sparrow	13			1	19	7	58	14
sparrow sp.	35							
Eastern Towhee	7	1	3	26	41	115	6	11
Eastern Meadowlark				9	2	28	9	
Baltimore Oriole						1		
Red-winged Blackbird	307	33	15	135	143	2580	582	1306
Brown-headed Cowbird				3000	80	2222	1	2
Rusty Blackbird	41						2	
Common Grackle	800			1001	100	2647	2262	14405
blackbird sp.				75		163	75	
Palm Warbler							2	
Pine Warbler						1	4	
Yellow-rumped Warbler	179	1	4	4		6	34	6
Northern Cardinal	493	52	45	668	248	764	335	124

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2019 Maryland Mid-winter Bird Count: Corrigendum

During the production process, the “Field Sparrow” row went missing from Table 3 of the 2019 Maryland Mid-winter Bird Count published in the spring 2020 issue of *Maryland Birdlife* (Norton 2020). The Field Sparrow data should be inserted between the Chipping Sparrow and Fox Sparrow rows as shown below.

Table 3. 2019 Maryland Mid-winter Count: Observed species.

Species	C&O	FAAS	ACAS	FR	CA	HO	BA	KE
Chipping Sparrow						16	4	
Field Sparrow	12	4	3	23	14	62	24	
Fox Sparrow	1			3	5	19	6	

LITERATURE CITED

Norton, E.L. 2020. 2019 Maryland Mid-winter Bird Count. *Maryland Birdlife* 69(1): 52-56.

MARYLAND BIRDLIFE

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Contributors should prepare manuscripts according to the following instructions.

Title: The title should be brief, concise, and pertinent.

Abstract: An abstract is required for all long articles; suggested for all biologic studies more than two (2) pages in length; but is not needed for notes, distribution reports, or short observations (especially if two pages or shorter in length). The abstract should provide a capsule description of the main thrust, methods, and essential findings of the article. It should contain the scientific name of the main subject species.

Text: Manuscripts should be double-spaced, lines numbered, and submitted in MS Word™ by e-mail or on a CD. Please identify respective file name(s) for text, figure titles, and descriptions of graphs or figures. First mention of a biological organism, in the abstract and text should include the full scientific name in italics. Carefully check the spelling of all scientific names. Capitalize the first letter of each word comprising the “official” common name for faunal species. Short articles and general notes (20 pages or less) are preferred. Color “copy ready” illustrations, pictures, or digital images are preferred.

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U.S. Postage
PAID
Hagerstown, MD
Permit No. 184

Maryland Ornithological Society, Inc.
4915 Greenspring Avenue
Baltimore, MD 21209



Maryland Birdlife

Published Semiannually by the Maryland Ornithological Society, Inc.

Editor: Eugene J. Scarpulla, 14207 Lakerun Court, Bowie, MD 20720-4861
gene.scarpulla@mdbirds.org
Associate Editor: Mark S. Johnson, 3204 Bryson Court, Baldwin, MD 21013
MarkSJohnson2@gmail.com

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